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DIESEL RAILWAY TRACTION SUPPLEMENT

The February issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, will be ready on February 1, price 1s.*

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays, 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Slow Progress of Reconversion

THE monthly returns of the number of insured workers published by the Ministry of Labour, give some guidance as to the progress of industrial reconversion from war to peace activities. The figures are not comprehensive, because they cover insured workers only, and there is some overlapping. In the categories which represent mainly civilian effort, by the end of October, although the total labour force was falling, these industries had secured an increase of labour ranging from 2 per cent. in the case of the railway carriage and wagon industry to 14 per cent. in the case of building and civil engineering since mid-1945. The total insured labour force of the railway carriage and wagon industries at the end of October was 47,800, which compared with 46,800 in the middle of last year, and 53,000 in the middle of 1939. Official estimates suggest that between mid-1945 and the end of October there was a decline of 1,380,000 persons engaged on equipment and supplies for the Forces, and a rise of 1,080,000 in those employed in civilian industries. The general picture seems to suggest that there has been a relatively small turnover to peace work and that the pace of reconversion is lagging. For this there is a number of reasons, but among them is undoubtedly a lack of confidence, and some disposition to await events before engaging in large-scale plans of reconversion and extension. Lack of a clear-cut commercial policy by the Government and the administration's pre-occupation with nationalisation projects, at the expense of practical measures to rehabilitate the country's trade, is an important contributory factor. The dangers which may arise from lack of confidence were demonstrated harshly in the early 'thirties.

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Experience in Industrial Regions

A special survey of the principal industrial centres of the country has been made recently by *The Financial Times*, and that newspaper states that this shows that the main factors hindering industrial reconversion are labour shortage, the operation of certain controls, and shortage of materials. As a result, it has not been possible to fill export orders offering for many important manufacturers. Sheffield steel and tool makers are suffering acutely from lack of labour, as are the iron foundries in the Midlands. In South Wales shortage of manpower is still affecting seriously coal production, and in tinplates production is impeded by restrictions and controls, especially in the export trade. From the Clyde, shipbuilders report a shortage of skilled men, and the steel makers are short both of labour and fuel. Indeed, throughout industry the spiral effects of shortages of fuel and men are increasingly evident. The engineering industries are particularly affected by both factors. The position calls for immediate attention while a buyer's market is still available. If our export trade is to be rebuilt and expanded to the extent which Government spokesmen declare to be necessary, it is essential that an early beginning should be made. In large measure the provision of available labour in present circumstances must rest with the Government, but uncertainties as to their future labour supplies and requirements are not helping large sections of British industry to plan ahead.

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Lord Plender

The death of Lord Plender on January 19 at the age of 85, severs a long connection with the Great Western Railway. He was the head of Deloitte, Plender, Griffiths & Company, chartered accountants, whose name is known throughout the world, and which celebrated its centenary last year. The firm always has had close professional association with transport, and in the case of the Great Western Railway this association has been continuous for 97 years. As long ago as 1849, four years after the establishment of the firm, Deloittes first acted in the capacity of professional accountants to the G.W.R. stockholders' auditors. Lord Plender, pre-eminent in his particular sphere, and distinguished also in his government, civic, and charitable services to public life, long had been directly concerned with the G.W.R. before his appointment as an auditor of the company more than twenty years ago. In a wider field of transport matters, his services had been called on in connection with the establishment in 1908 of the Port of London Authority, and in 1913 he was a member of the Royal Commission on Railways. His long list

of activities during and after the 1914-18 war included acting as financial adviser to the Board of Trade, which appointment he took up 1918. In 1921 he was a member of the Railways Amalgamation Tribunal and Chairman of the advisory committee on the Trade Facilities Act. In a long and crowded life, during which the calls made on his time and energies were very great, he was always ready for steady, patient work, and was remarkable for his imperturbability in conditions of stress.

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Canadian and U.S.A. Railway Comparisons

Some interesting comparisons were made by Mr. D. C. Coleman, Chairman & President of the Canadian Pacific Railway Company, between United States and Canadian railways in recent years, when he addressed the Canadian Railway Club in Montreal recently. He pointed out that the Canadian railway managements had maintained their equipment in a high state of efficiency throughout the years of depression, and had continued to modernise and improve their equipment to obtain a better performance from each unit. In the case of the C.P.R. the improvement in the efficiency of its locomotives had been such that, in 1942 its goods engines had required one-third less coal than in 1917 to do an equivalent amount of work. In 1939 the railways of the United States had moved the equivalent of 22·5 thousand million passengers one mile, and the figure for 1944 had been 95·5 thousand million. In 1939 they moved the equivalent of 333·5 thousand million tons of freight one mile, and in 1944 they moved 737·25 thousand millions. The average wagon load increased from 26·8 tons to 32·7 tons, and the average number of passengers per train from 58 to 200. The Canadian railways had increased their movement of tons of freight one mile from 34·75 thousand millions in 1939 to 65·75 thousand millions in 1944, and passenger traffic had increased from 1·75 thousand million passenger miles in 1939 to 6·75 thousand millions in 1944. The average wagon load had risen from 27·3 tons to 33 tons, and the average number of passengers per train from 48 to 149.

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British Railway Investments in Latin America

During last year there was a slight improvement in the position of British investments in Latin America. Of the total recorded in the annual compilation made by *The South American Journal*, there is a decline of £33,980,843 to £920,252,266, a substantial portion of which fall is the result of redemptions. The amount of British capital invested in railways in Latin America is returned at £433,830,354, which compares with £446,939,255. Of this amount, interest of £6,562,021, or 1.5 per cent. was payable, as against £5,188,848, or 1.1 per cent. for 1944. The total amount of stock receiving no interest was £306,916,644, against £319,073,859. As has been the case for some years, the rate of return on investments in railways is less than that for other categories. Over the total range of investments it was 2.7 per cent., and on Government bonds it was 2.8 per cent. Banks and shipping securities received the highest return at 6 per cent.

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Southern Railway Train Service Delays

In our last week's issue we referred to the enquiries which *The Sunday Express* was making of each of the four main-line railway companies, in an endeavour to ascertain the reasons behind the recent late running of trains, and we reproduced from that paper the schedules relating to the L.N.E.R. Last Sunday figures supplied by the Southern Railway were reproduced in *The Sunday Express*, and we reprint these elsewhere in this issue. It will be noticed that all the services given are steam operated, and in our view it would have been more interesting if some figures for electric services had been included, to enable a comparison to be made as to how passengers by electric trains fared in comparison with those that were steam hauled. The reason for their exclusion cannot be that only main-line trains were included, for the London to Brighton run surely comes within this category, and certainly that to Portsmouth should do so. In explanation of its difficulties, the Southern Railway points out that long-distance passenger traffic is up 484.7 per cent., and that passenger traffic to the Continent is much heavier than before the war, due chiefly to the provision of many leave and repatriation trains. Overcrowded business trains cause delays, engines are in poor condition, and poor quality coal and bomb damage have also affected timekeeping. The need is still felt for the return of experienced staff from the Forces.

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Long-Span Military Railway Bridges

In this issue we conclude our series of articles on the standard military railway bridges that have played so important a part in winning the war for the Allies. The unavoidably long delay since the last article appeared is due to the fact that only now has the completion of the Deventer Bridge in Holland made it possible to describe and illustrate the largest type of these bridges, as constructed in the field. This type, known as the Everall Sectional Truss Bridge, shows many proofs of the practical genius of its designer, whose name it bears. Precision fabrication of its components is the key to its success, but it was a bold adventure (a) to create a 400-ft. rapidly-erected bridge span with components that could, up to the time of erection in the field, be manhandled, and the span-length of which could be varied in increments of 6 in.; (b) to build a cantilever part-span 160 ft. in length, the nose of which sagged only 7 in., despite so vast a number of joints between its small components, and with the assurance that its junction with the remaining part of the span would be effected with certainty and rapidity; and (c) to devise a standardised system of component packing, such as described in the article, that ensured an accurate flow of material. The E.S.T.B., in fact, is the culmination of the series of successful types of military railway bridge produced by the War Office specialists, who, with others responsible for training the field personnel and for erection under service conditions in the different theatres of war, deserve unstinted recognition. In view of the many interesting features associated with the bridges we have described, we propose to reprint the series of articles in pamphlet form, including additional details and illustrations.

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The S.N.C.F. and the Question of Liability

The operation of war and the circumstances arising from the occupation of France necessarily created some serious legal problems for the French National Railways and repercussions are likely to be felt for a long time. Many cases have come before the courts, touching loss of life or freight, damage to property, and other matters incidental to the war, and the political conditions in France since the collapse of resistance in 1940 have not tended to render the legal position clear. The question of the responsibilities of the railways was dealt with specially by a decree dated July 23, 1945, which authorised them to provide rolling stock and component items, such as tarpaulins, in a defective condition—of course within specified limits—without being liable for claims arising from damage to or loss of goods during transit. Wagons other than the type ordinarily allocated to a particular class of merchandise similarly might be used. In no other way would it have been possible to conduct the traffic in the exceptional conditions obtaining. An article in our contemporary *La Vie des Transports*, by a barrister of the Paris Court of Appeal, shows that the interpretation of this decree bristles with difficulties and that long arguments are to be expected.

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G.W.R. Zoning Scheme for "Smalls" Consignments

The G.W.R. is introducing in the Birmingham area an experimental zonal scheme for the collection, delivery, and transport of "smalls" consignments of freight traffic. On the success of this scheme will depend its application to the rest of the system. The object of the development would be to provide one-day transit for small individual consignments, not only between large centres but also between outlying towns and villages served by the company. Under the scheme the company's system would be divided into zones, each covering a radius of approximately 30 miles, and in each zone would be one main depot with sub-depots at strategic points. All incoming or outgoing "smalls" traffic would be concentrated at one of the depots, instead of being handled at many stations, and would be brought into or delivered from the depots by the company's road transport. Outgoing freight traffic would be made up into full wagon loads and despatched by fast freight service direct to the zonal centre or depot from which

delivery would be effected, thus eliminating considerable intermediate trans-shipment. The Birmingham zone comprises approximately 160 square miles, and will result in the work of dealing with "smalls" at 22 stations and depots being concentrated at 5 stations.

* * * *

William Whitelaw

JUST over 23 years ago, in December, 1922, William Whitelaw, whose death at the age of 77 we record with great regret, thought that his long span of 23 years as a railway Chairman was about to end. His appointment as the first Chairman of the London & North Eastern Railway, was a surprise. We remember Lord Claud Hamilton's consternation: "The Chairman of a Scottish railway for one of the 'big four,' it was asking for trouble!" "He represents the bygone feudal system of railway management," said Sir Eric Geddes, "when railway directors regarded the General Manager much as they would their bailiff or gamekeeper." Mr. Whitelaw himself said: "They had much better have chosen Sir Alexander Butterworth." In fact, but for the loss of his sons in the first world war and the prospect of occupation affording relief for his grief, we doubt very much whether he would have accepted the proferred Chairmanship.

Born to riches, third son of a Scottish steelmaster, William Whitelaw became a Conservative Member of Parliament in 1892, when he was 24. But a political career made no appeal to him, and in 1895 he did not seek re-election. Three years later he joined the board of the Highland Railway; he became Chairman in 1900 at the age of 32. The railway was in financial difficulties. Its then directors, mostly simple Scottish lairds, had not realised that dividends were being paid that were not fully earned. "At first," Mr. Whitelaw once reminisced to us, "I was a most unpopular Chairman because dividends stopped." It was during those early years as Chairman of the Highland Railway that he acquired his detailed knowledge of all branches of railway working. In fact he could have earned his living as a guard, signalman, or engine driver. "What really aroused my interest in railway working," he once told us "was in my early Highland days having to go all over the system with a notebook to see whether carriages and wagons on the company's stock sheets really existed or were perhaps derelicts in some siding." Onwards throughout his life, as Chairman of the North British and then as Chairman of the London & North Eastern, Whitelaw remained a "railway fan." He was never happier than when out on a "railway inspection." In this regard he rather resembled the President of a U.S.A. railroad. But in other respects he was not a travelled man. In fact, we believe he only left the shores of this country once in his life and that was on a L.N.E.R. steamer's week-end cruise to Antwerp. Apart from the railway and the Bank of Scotland, of which he was a director, he took a great interest in the affairs of the Church of Scotland, always attending the General Assembly in Edinburgh at which he often spoke.

Was Whitelaw a success as Chairman of the London & North Eastern Railway? The answer is emphatically in the affirmative. He held that office for over 15 years from 1923 to 1938—a longer period than that of any other Chairman of one of the four main-line companies. At the outset he and his board were rather too optimistic in paying dividends on North Eastern deferred stock out of the Government compensation paid after the last war, presumably in the hope that the elusive "standard revenue" was just round the corner. In his capacity as Chairman of the L.N.E.R. he soon dispelled all forebodings that he would regard this combination of seven constituent and 16 subsidiary railways just as an enlarged North British Railway. He appreciated the dividing line between direction and management. Yet he considered it his duty as Chairman to attend innumerable staff functions to an extent never equalled by any Chairman of a British railway. He allotted so many evenings a year for these "duties" up and down the country, and having accepted an invitation for some quite minor function would never disappoint his hosts if the date clashed with some more important gathering. Even right up to his retirement in 1938, he would think nothing of attending a railway function in London on a Saturday evening and going off to Edinburgh by sleeper that night and returning to town on Sunday night. Another interesting trait was his habit of answering in his own handwriting literally scores of letters a week from stockholders, traders, and others, never keeping a copy of them and yet never writing one which caused any embarrassment to his officers. Of course, he would not have had time to indulge in this correspondence but for the fact that he confined his directorships to the railway and the bank.

Whitelaw had decided views on many matters. One of his contentions was that to all intents and purposes British railways were "nationalised" already. He regarded the selection of directors as distinctly the Chairman's prerogative. Latterly he preferred young directors and in appointing a new recruit would stress the fact that a railway directorship was no sinecure to be lightly undertaken, and point out the amount of time that must be spent in attending to various committees, and other duties in addition to board meetings for a very small remuneration. His only directorships being the railway and the bank it was never a case of "You put me on your board and I'll put you on mine." On several occasions he spoke to us of the great difficulty he had in selecting suitable directors. Some of his selections caused surprise and some, of course, have been more successful than others. But we think it will be generally admitted that Whitelaw had extraordinary perspicacity when in 1929 he invited Sir Ronald Matthews to join the L.N.E.R. board, and who, nine years later, in 1938, succeeded him in the Chairmanship.

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G.W.R. South Wales Programme Announced

IN the course of his speeches to representative gatherings of industrialists at Swansea and Cardiff, on January 15, a report of which is given elsewhere in this issue, the Rt. Hon. The Viscount Portal, Chairman of the Great Western Railway Company, had some interesting information to give as to the company's plans for developments in South Wales. After explaining that the first necessity was the overtaking of the arrears of repairs and renewals which had accumulated during the war, Lord Portal expressed the company's intention of providing more and faster passenger and freight train services as soon as circumstances permit.

He also revealed that, although sufficient time has not yet elapsed to enable the company to reach any definite conclusion as to the relative advantages of using oil instead of coal on locomotives, the results of the experiment with oil-burning heavy-freight engines had so far exceeded expectations, and it had decided to adapt some heavy passenger and tank engines to burn oil, and also to explore the possibility of a gas-turbine engine.

After outlining an impressive list of improvements which the company proposes to carry out at the South Wales docks and stations, Lord Portal suggested that South Wales manufacturers should get together to see to what extent they could combine their exports so as to obtain nucleus cargoes for regular shipments to particular overseas markets so as to attract additional shipping lines to call regularly at the South Wales ports.

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New South Wales Railways

THE report of the Commissioner for Railways, New South Wales, for the year ended June 30, 1945, gives the balance of profit on the year's operations as £6,903,928, a decrease of £61,921 compared with the previous year. The surplus, after providing for all statutory debts, is £544,903. The year's surplus approximated the estimated surplus of £553,000 forecast by the Commissioner in his Budget speech in October, 1944. This is considered to be a satisfactory result in view of the exceptional difficulties encountered. Railway operation was handicapped throughout the year by a serious coal shortage. Although every endeavour has been made to obtain additional coal, the situation has deteriorated since the end of the financial year, and in consequence restrictions on passenger and goods services have been reimposed. In addition, the severe drought conditions that prevailed over most of the State reduced primary production and caused considerable losses in stock. Still another factor in reducing the volume of rail traffic in New South Wales was the steady northward movement of military activities in the Pacific war.

The earnings, totalling £31,577,137, were £2,924,055 less than

the record amount for the previous year. Most of this reduction, £2,279,838, was in goods revenue, the goods tonnage falling from 18,602,711 to 17,792,891 tons. Coaching earnings were £561,638 less than the record amount of £12,866,613 for the year 1943-44 despite an increase in passenger journeys to the record total of 254,099,105. Earnings from refreshment room services decreased by £53,882, but revenue from sales of electrical energy increased by £45,058.

The working expenses, amounting to £24,673,209, were less than the previous year's total by £2,862,134. In 1943-44, however, there were special debits in working expenses totalling £3,350,000, whereas special debits in the working expenses for the year under review totalled only £835,000—£670,000 being provision for rolling stock and equipment, and £165,000 for additional repayment of the special loan of £3,300,000 arranged in 1934 to overtake arrears of track maintenance. This additional repayment has reduced the liability for the special loan to £544,100; the department is eight years ahead in its repayments.

The financial results of operating the New South Wales Government Railways since June 30, 1942, are shown in the table below:—

Year ended June 30	Earnings	Working expenses	Earnings after payment of working expenses	Surplus after payment of statutory charges
	£	£	£	£
1942	27,686,332	21,712,560	5,973,772	203,899
1943	34,071,958	27,343,105	6,728,853	774,542
1944	34,501,192	27,535,343	6,965,849	754,054
1945	31,577,137	24,673,209	6,903,928	544,903

The ratio of working expenses to gross receipts for the year 1945 was 78.14 per cent, The receipts per train mile were 15s. 5d., and the expenditure per train mile 11s. 5d. The percentage of net profit to capital invested equalled 4.52.

The report states that despite difficulties associated with railway operation during the war period due to the absence of some thousands of trained staff, to the shortages of certain vital railway maintenance materials and to the overcrowding of trains, the railways maintained an unblemished record of safe carriage of passengers. During the period from July 1, 1939, to the end of June last, 1,334,165,000 passenger journeys were made, and there were 1,969,087,000 passenger journeys during the period from September, 1926, to the end of June, 1939, giving the very significant total of 3,303,252,000 passenger journeys without one fatal accident due to an accident to a train. This is a record of which the New South Wales Railways might well be proud.

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The City of Manchester Plan

THE details for the replanning of Manchester have now been published in a handsome 274-page volume* compiled by Mr. Rowland Nicholas, the City Surveyor, and which also contains the usual illustrations, photographs, maps and statistical appendices appropriate to planning schemes of this kind. In connection with the replanning of the City and its environs which is designed for a 50-year period of fulfilment, thoughtful and exhaustive consideration has been given to the subject of present and future railway facilities in the region. Manchester serves a regional population of 1¼ millions within a 5-mile radius of its centre and over 12½ millions within a 12-mile radius; these people travel in and out of the city using the four main-line terminals and two district stations within its commercial centre. The report directs attention to the piecemeal method by which the railway system serving the city was built up and the lack of inter-terminal links as between passenger termini and as between the goods termini of the former separate railway undertakings, which conditions still obtain under the present group railways; in consequence passengers and freight not destined for the city have to traverse the streets instead of avoiding them by remaining on rail.

The closer inter-relation of the railway services with other elements in the economic structure of the city is an essential part of the Plan. One of the objectives is the reduction of unnecessary road haulage in the city and it is stated to be a function of the Plan to assist railway undertakings to maintain and improve the efficiency of passenger and freight transport in the public interest. In this connection it is observed from the diagram embodying the zoning proposals that the question of availability of transport has been dealt with in a realistic manner by placing the industrial zones in such areas where it will be possible to take the maximum advantage of the existing railway installations in the region, even in the central area. In the future, however, it is suggested that the railway services now concentrated on the Central, Salford, Victoria and Exchange passenger stations should be transferred to a new and extensive through passenger station (to be known as Trinity) to be constructed to the west of the Deansgate district between the existing Salford and Exchange

stations, with connecting loops to unite the L.M.S.R. and L.N.E.R. systems. The proposed Trinity Station and connecting loops are indicated on the map on this page. It is stated in support of the proposal that besides taking inter-station traffic off the streets the release of the four stations mentioned would contribute to the well-balanced planning of the city centre and also remedy most of the deficiencies of the existing passenger railway system, while using to the utmost the capacity of the existing network of surface lines to serve the central area. In the matter of freight traffic it is pointed out that there are seven goods terminals in the central area of the city; to avoid unnecessary street cartage it is suggested that these terminals should be ultimately moved to sites outside the central area thus separating the functions of passenger and goods terminals which would allow of more expeditious handling of the passenger services. The inter-connection of the goods terminals by the before-mentioned loop lines would result in a better routing of consignments and abolish the present system of transhipments by cartage across the city between the L.M.S.R. and L.N.E.R. goods terminals.

The proposals as they affect railways are advanced in tentative form with the proviso that they will have to be examined in consultation with the railway companies who are themselves, it is stated, best qualified to assess their merits.

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Further Steps in the U.S. Pullman Litigation

BY the beginning of November an interesting stage had been reached in the Pullman controversy in the United States. Four offers in all had been made for the acquisition of the Pullman sleeping car business, and Pullman Incorporated had been ordered by the U.S. District Court in Philadelphia to choose which of these proposals it was prepared to accept. As mentioned in the November 16 issue of *The Railway Gazette*, one of these offers came from Otis & Company, which was prepared to expend $75,000,000 on the Pullman assets, and claimed that a further expenditure of $500,000,000 would be necessary on streamline sleeping-car equipment, in order that all the old heavy standard cars might be withdrawn from service.

The second offer was from the Standard Spring Company, which proposed to re-sell the modern Pullman sleepers to individual railway companies, and to use the heavy standard cars as a pool, similar to the previous Pullman pool, from which all the railways might draw as desired. This company also contemplated converting a number of the existing sleeping cars into composite vehicles in which a certain amount of "coach" (the equivalent of third class) accommodation would

* Obtainable only from the City Surveyor, Manchester, price 12s. 6d. Abridged edition 3s. 6d.

be combined with sleeping car space on runs on which there was a limited demand only for sleeping car service. The Standard Spring Company offered $40,000,000 for the capital stock of the Pullman Company, on the assumption that the railways themselves would expend $35,000,000 on the purchase of the lightweight modern sleeping and parlour cars that they hold at present under option.

An investment banking firm named Glore, Forgan & Company made the third offer, which was backed by a number of underwriters, and much was made by this group of the fact that neither the firm nor any of the underwriters had any connection with Pullman, with the railways, or with any firm engaged in the manufacture of railway vehicles or equipment. As had been expected from the outset, the fourth offer was made by a consortium of the railways themselves, which grew steadily in numbers from the initiation of the proposal until 27 companies in all were included in this group.

The railway offer was made by companies over whose lines more than 80 per cent. of the sleeping car services in the United States are operated. It was to purchase all the capital stock of the Pullman Company for slightly less than $75,000,000. Cars regularly assigned to services working over one company's lines only would be acquired by that company, if so desired, but a pool of cars would be maintained by the group from which to operate the through workings and to meet seasonal and other special demands. Each company would do its own car servicing, or put the work out to contract, as preferred, and the arrangements would be without prejudice to future operation of the entire sleeping car service by an independent railway corporation, if this should be considered as in the public interest.

When the railways gave their testimony before the District Court, in support of their offer, several witnesses referred to the difficulties that might arise if, as it was put by Mr. Gustav Metzman, President of the New York Central System, the railways were put "at the mercy of an outside organisation which is imposed on them against their will for the performance of one of their own functions." Mr. W. S. Franklin, Vice-President (Traffic) of the Pennsylvania Railroad, stressed the fact that by the steady improvement in luxury of the modern streamline "coaches," there was now a definite competition in attraction between the reclining chair coach and the sleeping car, which, as the returns prove, is beginning to draw passengers from the latter to the former, on economy grounds. Such competition would be likely to conflict with the interests of any future outside operator of the sleeping car services.

Both these witnesses contended that the railways themselves alone are able to judge the right balance which should be maintained between the two types of equipment, to determine the number of each type of car required on each train, and the speed at which the service should be run. Furthermore, without the profits of an outside organisation having to be added as an overhead to the sleeping car charges, the railways should be able to offer cheaper sleeping car service to the public than an independent outside firm.

It might be regarded as a weak point in the railways' case that hitherto the sleeping cars actually have been operated entirely by an outside organisation; indeed, it says a good deal for the relations which have existed between the railways and Pullman in the past that none of the difficulties suggested appears to have arisen in the past, or certainly not in any acute form. Now that a compulsory break with the past is to be made, it is evident that a number of the railways prefer to concentrate the sleeping car business in their own hands rather than to be dependent any longer on an outside operator.

Not all the railways share this view, however. A number of the lines on which the sleeping car business is relatively small consider that the acquisition of the cars by a limited number of the larger companies would be prejudicial to their interests. Moreover, it is as yet by no means certain that the choice by Pullman of the railways' offer would be sanctioned by the District Court, for it may well be that, in view of its pronounced anti-trust complex at the moment, the U.S. Justice Department will oppose any such railway ownership. Already the Court has indicated that it is seeking the opinion of the Government attorneys in writing on each of the four purchase proposals. If Pullman should elect for the railway purchase, therefore, further litigation is to be expected.

Railways and the Public

(From a Correspondent)

THE recent announcement of the Great Western Railway project for the provision of Automat Buffet Cars is welcome, for at the moment the public is very "food conscious" after some years of war and self-denial. It is a sign that the companies are becoming increasingly aware of the voice of the public and it is to be hoped that the process will continue.

In the frequent discussions which are heard in trains and elsewhere, on the merits and the faults of railway travel, there are several points which crop up time after time and the companies would be wise to study these points and satisfy in some measure the feeling of their customers on these questions. One is the eternal question of food and the way it is served. Many people are passing judgment from the extremely poor standards of the Refreshment Rooms at present. Liquid which only by compliment can be called tea, is served on a disorderly mass system, with no saucers and often only one spoon for everybody (and this sometimes chained to the counter). The price still stands at 3d. Some of the rooms certainly try to provide something more tasty than the usual unappetising buns but the whole thing is "a poor show" and by no means equal to the standard of cheap tea-shops.

That the railways can do better in the matter of food than many restaurants is well-known, for one has in mind dining and tea rooms up and down the country, which before the war were models of good organisation and of good fare. At this point of contact with the public the best is called for because of the simple psychological fact that a nice meal or a decent snack puts the average man and woman in a mellowed temper. We can also recall the excellent food boxes sold many years ago on the G.W.R. system at 1s. 6d. each, which contained an attractive selection of items which, with a good cup of tea from a mobile service, was a boon to the traveller.

A second point of interest is the station booking hall and its effect on prospective clients. It is sadly true that the majority of these places are poor advertisements for the beginning of a journey and the wrong atmosphere is created right at the starting point. Ill-lighted and draughty, without any central heating, their walls defaced by rules and regulations and penalties for travelling without a ticket, this is not the spirit in which to set out for a journey. Nothing revolutionary is required but the provision of welcoming colours, some extra light and, if possible, some means of heating. Gradually, too, we shall see the abolition of the inadequate little ticket windows and the provision of more sensible arrangements which will ease the transactions between buyer and seller. The booking hall is of the utmost importance and its advertisement value should not be overlooked by the executive.

The third point of very strong criticism is that of cross-country journeys by train. This is probably the matter in which railway travel shows up at its worst and passengers take a morbid delight in recounting prolonged and arduous journeys from east to west and *vice versa*. A study of old timetables and a comparison with present times reveals the fact that only slight improvements have taken place over many years and that average speeds are low indeed. From the point of view of the business man or the ordinary traveller the time of transit laterally across England is just as important as up or down the country. Yet when once the G.W.R. and the Southern Railway area are left behind there is little to merit one's admiration until the Liverpool-Leeds-Hull line of the L.M.S.R. and the L.N.E.R. is reached.

Even the reply that the bus companies partially cover the situation is not enough to satisfy the enquirer, for where these cross-country lines exist and their upkeep has to be paid for, a speedy diesel service is probably warranted which, together with better connections would improve the entire situation.

An analysis of conversations among travellers reveals that the above three subjects are the most widely discussed and, worthy as the recent questionnaires on coach design may be, the solution of these outstanding problems is much nearer to the heart of the public. It would be profitable for the companies to enunciate some line of proposals to encourage their customers on these matters, and to allay in some degree the damaging criticisms that are constantly made.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Oil Fuel on Palestine Railways

P.O. Box 546,
Haifa. January 4

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the announcement in your issue of March 9 last, on page 242, readers may be interested to know that the press message was misleading. The oil is a product of refining and not crude oil. The latter, even, from which the former is obtained, is not produced locally but is imported from the Kirkup fields in Iraq, after being stabilised, *via* the pipe line to the refineries at Haifa. The trial bores in southern Palestine are not in commercial production.

It is not correct, even recently, that *all* locomotives had been adapted, as occasional coal-burners could still be seen.

Crude oil is not marketed here for local use. It was, however, arbitrarily valued for statistical purposes at 800 mils per ton, whereas under-boiler fuel oil is sold at something like £P.5.000 mils. As the railways announced in the local press that their fuel bill for one year was £P.462,000, the story of the use of crude oil may have arisen from wishful thinking. Whether that is the explanation, or whether no one read the label on the bottle, the fact remains that this pleasing fiction is allowed to persist here.

I can recall having read of only one railway which was able to burn the available crude oil under its boilers in practical operation and it was assumed that this was asphalt based. I have often thought that I would ask you if, at some convenient time, you would consider the compilation and publication of a list of the steam railways, throughout the world, which operate on petroleum, and whether crude or a derivative : I could believe that it would not prove to be a very long one, and that it would be of interest to a considerable number of readers.

Yours faithfully,
A. L. JONES

[The press message from Haifa which was quoted in our March 9 issue stated : " Because of oil shortage, all locomotives operating on the Palestine railway system have been adapted to use locally produced crude oil.—Ed., *R.G.*]

Demobilisation of Railway Staff

1, Danesfort Avenue, Guisborough,
Yorks. January 11.

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Might I add to the comments of " Sapper " in your issue of December 21 regarding the arrangements made by the railway companies in connection with members of their staffs returning from the Forces. I agree with him that the information contained in your article in the issue dated December 7 was " good news." I am sure that members of the staffs, both returned and still to return, will be encouraged by the knowledge that the companies have a plan which makes a sincere attempt to offer better prospects to those of proved ability.

It is agreed that there are instances of returning men finding themselves the juniors of their pre-war juniors, but I would hardly go as far as he does, to say that an " out of sight, out of mind " policy had influenced the operation of an otherwise excellent scheme for promotion in absence.

I think it would be fairer to say that what at first appeared to be an equitable arrangement, has not worked. It was hardly to be expected that railway officers would be inclined to add to their staff absent men whom they did not know, had never seen, and could not interview. Opportunities of promotion for absentees therefore have been limited largely to the districts in which they were well known.

The present proposals increase the opportunity for promotion on merit and should result in the early disappearance of some of the anomalies of which " Sapper " complains.

Your article states: " These men will be interviewed by a committee of Chief Officers who will select a number . . ." This raises a point on which some further information would be welcome. Are the selections for special training to be limited to a given number, or to an agreed standard of ability or achievement?

In the arrangements for the selection of traffic apprentices from the staff, appointments were, I believe, limited to a given number. Under these arrangements, a standard attained in one year might secure an appointment which in another year might fail. Furthermore, in the year when the age limit was increased, many who had rushed their last chance and failed were less fortunate than those who missed it, later to find themselves with four more years in which to prepare. Anomalies were produced, and as the normal promotion was based largely on seniority in the service, " a miss was as good as a mile."

In the present scheme, some provision for the " near-misses " would be welcome, and I suggest it might be broadened to embody a revision of the arrangements under which normal vacancies are filled. The degree of consideration now given to seniority should be reduced to a point where it decides only between two or more candidates of more or less equal merit. By doing this the companies not only will create conditions in which their staffs are more likely to reach their proper levels in a reasonable time, but they will give a much needed incentive to their employees to become more qualified and proficient.

Let the familiar " List of applicants in order of seniority " be abolished and give the officers of the companies a free hand to select for appointment the men who most merit the promotion. Give full consideration to qualifications. The railway companies have a comprehensive education scheme and the examination results, together with diplomas granted by such bodies as the Institute of Transport, the Industrial Transport Association, and the like should be recognised as indicative of the individual's capability.

While it is well known that the trade unions have been largely responsible for the importance given to seniority, there are signs that views are changing. Recent letters in the *Railway Service Journal* indicate some support from active members of the Railway Clerks' Association for the recognition of ability.

Promotion on seniority can only be supported by those who have no other qualification, and I feel sure that a change on the lines indicated would be as welcomed by the companies as it would be appreciated by their staffs.

The time is not far distant when the companies will have need of all the abilities of all their staffs. The transition from service to civilian employment will be easy compared with the transition from present to normal conditions. If the companies are to maintain their business in the face of a return to normal conditions in competitive spheres, energy, and capability must be given full opportunity of exercise.

I feel that I can speak for many members of the companies' staffs both returned and yet to return from the Forces, when I say that they are anxious to do as big a job for the companies as they did for their respective services, and whether they are selected for special training or not, provided they see a fair chance of promotion on the basis of individual merit, they will be content, and the companies will find enterprise and ability where those qualities are most needed.

Yours truly,
J. N. STAINTHORPE

[We have received a letter on the above subject from a correspondent who signs himself " Other Rank," but omits to give his name and address. If he will forward these, not necessarily for publication, we will consider publication of his letter.—ED. *R.G.*]

" L.M.S.R. Change in Locomotive Practice "

" Cottesloe," 14, St. Marks Avenue,
Old Bilton, Rugby. January 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your article on " L.M.S.R. Change in Locomotive Practice," in your issue of November 23, 1945, was read with much interest, also the letter from Mr. P. A. Hyde, which appeared in your December 7 issue.

As with Mr. Hyde, your article reminded me that over 40 years ago, rocking grates were in common use in locomotives overseas. So long ago as 1904, when I was serving my apprenticeship on an Australian Government railway, we had a class of British-built (Vulcan Foundry, and Nasmyth Wilson) Pacifics on express-passenger work, which were fitted with rocking grates worked from the footplate. Some of these engines, in addition, had dump grates at the forward end. The overflow from each injector had a full bore connection to pipes (one on each side) which ran the full length of the ashpan. These pipes had each a line of small drilled holes which directed a stream of water on to the ashes on the bottom of the pan. The whole worked most satisfactorily and was a boon to engine men, particularly when " pool " running began, which meant very extended turns over roads with ruling gradients of 1 in 60 and numerous banks miles long with such steepness. Over a good many years I do not recollect having known of any difficulties being experienced with the rocking grates or any of the associated gear. The locomotives were designed in Australia, in collaboration, as I recollect, with the builders mentioned.

In passing, I would like to mention, as relevant to the subject, experiences in England. Twenty-five years ago, I did quite a bit of footplate running on fast express turns on a

leading railway. The "turn" meant a visit, after the first half of the running, to the locomotive shed; turntable, and clean fire. The latter was a frightful business, the practice being to remove, with enormous long-handled "pincers," some of the firebars. The clinker from the cleaned fire was then pushed through the space left by the removed firebars. When the operation was complete the firebars were replaced—and this was the appalling part. The spaces on the bearers were nearly always filled with ash or clinker and in nine cases out of ten the bars jammed and would not go down properly. The pincers or a pricker were then used as a battering ram, and the efforts of a husky fireman can better be imagined than described—particularly when the operator reached a stage of exasperation. I have frequently watched—in a condition of some concern—wondering how long the copper firebox, and the area round the foundation ring, were going to stand the punishment.

The new arrangement being adopted by L.M.S.R. would appear to be a big step forward, and associated with the smokebox improvements, should undoubtedly prove of great benefit in running sheds and to footplate personnel.

Yours faithfully,

G. H. PAULIN

Locomotives of Sir Nigel Gresley

21, Park Hill, Moseley,
Birmingham, 13. January 17

To the Editor of The Railway Gazette

Sir,—May I offer you my sincere congratulations, and through you, to the author on this excellent book ("The Locomotives of Sir Nigel Gresley"). It is a fine tribute to a great—a very great—engineer and will, I am sure, be treasured by his admirers, of whom there are very many amongst the ranks of railway enthusiasts. If only his breadth of mind had been in evidence at Derby many years ago, the "Paget" locomotive might have had a very different history.

Yours sincerely,

STEWART DEWSBERY

["The Locomotives of Sir Nigel Gresley" is published by our associate, The Railway Publishing Co. Ltd., in collaboration with Longmans, Green & Company, price 10s. 6d., and was reviewed in our issue of January 18.—Ed. *R.G.*]

L.N.E.R. Locomotive Rebuilding

c/o D.A.D.Tn., Malaya,
South East Asia Command. January 2

To the Editor of The Railway Gazette

Sir,—I have read with interest the opinions expressed in your columns, but consider that the present rebuilding programme cannot be discussed in general terms in view of the variety of different types concerned and the widely differing duties on which they are used.

In the case of the smaller Gresley types, such as "D49" 4-4-0s, 2-6-2 tanks, and "K4" 2-6-0s, the advantages of three-cylinder propulsion, with the added complication of conjugate valve gear, would appear to be less than in the case of the larger engines, such as "K3" 2-6-0s, "B17" 4-6-0s, "Green Arrows" and Pacifics, which find employment on duties requiring the maintenance of an even power output over considerable distances at high speeds, where the advantages of more even torque, and expansive use of steam by short cut-off working are very definite. Furthermore the use of two cylinders in these machines would not be possible, to maintain the existing tractive effort, without a further increase in boiler pressure, whereas in the smaller types mentioned the use of two cylinders has no such disadvantage, and the more perfunctory maintenance normally given to the smaller engines together with their greater use on a "common user" basis largely nullifies any refinement of design which does not increase the tractive capacity.

In support of this argument, can the general standard of work of the "D49" 4-4-0s be held to be superior to that of the 2-cylinder "Director" 4-4-0s of less weight, or that of the "V1" 2-6-2 tanks with 180-lb. pressure with that of the modified "A5" 4-6-2 tanks built in 1925? One doubts, too, whether the costs of maintenance and running would favour the 3-cylinder machines.

The larger Gresley engines, particularly the 2-6-2s and Pacifics, when properly maintained were amongst the most efficient and reliable in the country, as evidenced by their continual daily use on such long and heavy duties as the London-Edinburgh runs, and of continuous high-speed running with such trains as the "Coronation." Even with war-time valve-gear maintenance, of which syncopated exhaust beats were audible evidence, they consistently handled trains of a greater magnitude than run on other railways with notable success. With the return of more normal conditions of maintenance, any troubles with the conjugate gear should disappear and the present drastic rebuild of No. 4470 thereby seems hard to explain to the uninitiated, as the same results could have been expected merely by the fitting of an "A4" boiler, which should not prove impossible in view of the previous fitting of the heavier "A3" boiler on the existing frames. The drastic rebuild of No. 4470, in addition to increasing the already long engine wheelbase also has lost the advantage of the formerly direct steam passages to the cylinders, and increased the weight by the extension of the frames, and fitting of independent motion between the frames, which is not easily accessible. Much the same remarks appear to apply to the rebuilding of the 2-6-2 and 2-8-2 engines on the same lines, also the rebuilding of the "B17" 4-6-0s with two cylinders in view of their proven efficiency and capacity. In the case of the "Sandringhams," however, their reaction to wartime maintenance has been less satisfactory, probably due to restriction of the original design for the Great Eastern section, where, latterly, the rebuilt "B12" 4-6-0s have been the more consistent performers.

To my mind the foregoing remarks support Mr. Reynold's remarks in favour of the Gresley designs of larger size, but reasonable simplicity in design and maintenance of machines used on more local duties has much to advocate its adoption. At the same time the necessity for carrying out the standardisation of boilers, cylinders, and motion of similar types cannot be disputed, although one would imagine that new construction, at a time of motive-power shortage, typified by the "L1" 2-6-4 tanks which meet a pressing demand, would be preferable to the drastic rebuilding of capable and efficient machines, only requiring good maintenance, which must be a costly policy both in material, money, and shop occupation.

Yours faithfully,

G. W. CARPENTER,
Lieut., R.E.

M. Gaston Leverve

Ottoman Bank, 26, Throgmorton Street,
London, E.C.2. January 14

To the Editor of The Railway Gazette

Sir,—With reference to the obituary notice in your issue of January 11, may I draw attention to the fact that Monsieur Gaston Leverve carried out the important duties of Commissioner of the German Railway Company from 1924 to 1930 in virtue of the arrangement made under the Dawes Plan.

Yours faithfully,

H. OSBORNE MANCE

Pilfering on Railways

Essex House, Essex Street, Strand,
London, W.C.2. January 16.

To the Editor of The Railway Gazette

Sir,—Mr. F. R. Pratt, writing from the L.M.S. Police Office, endorses the view expressed by Mr. Bumble (not by "no less an authority than Dickens") that "the law is a ass," on the ground that "when by every test"—including apparently the opinion of a railway policeman—a man "is quite obviously guilty he must be regarded as innocent until he is found guilty in a properly constituted Court of Law."

I think that possibly a good many people might come to share the opinion of the worthy Mr. Bumble, if trial by railway policemen were to be substituted for trial "in a properly constituted Court of Law."

Incidentally it is interesting to note the railway police definition of a "first offender"—"that is the first time he is *caught*."

Yours faithfully,

KENNETH BROWN

Gedaref Railway & Development Co. (Sudan) Ltd.—The report of the Gedaref Railway & Development Co. (Sudan) Ltd. for the year ended October 31, 1945, states that obligations of Sudan Government under sale agreement have been fulfilled. Instalments are sufficient to cover interest on debenture stock, payment for redemption of debenture stock during the year, and all other expenses. A further £60,400 debenture stock has been drawn for redemption on March 1, 1946, reducing amount outstanding to £1,501,200.

The Scrap Heap

"Do you travel up to Town by car?"

"No, by train—on foot"—*John Carpenter in "The Evening News."*

* * *

"What sort of games did you play at your party?"

"Well, we only had a tiny drop of whisky, so we played 'Hunt the Thimbleful'!"—*From "The Evening News."*

* * *

During the final advance from Mandalay to Rangoon last year a station and strip of line were retaken by our troops. No trains had run for three years. While firing was still going on in the vicinity a native appeared from the jungle with a bundle and inevitable umbrella and squatted on the platform. He was brought to the Intelligence Officer for questioning and said: "I wait for long time; now Sahibs come back, I catch train and go and see my father."

* * *

These "Fuelish" Things

Coal—gas—electricity, and all the means that are used to provide power, electricity and heat, add up to one word—fuel. You may be tired of being asked to save it, but, seriously, the necessity is so urgent that we must come at you again.

Fuel is still being wasted; one sees it every day; but who is going to stop it before it is too late to prevent a shortage under which we shall all suffer? Each one of us personally. It is only a matter of a little extra thought and observation to save tons every day in such a vast organisation as the Great Western Railway. Have you thought of it that way? It is true, and it is only by persistence and your help that we shall get the idea right into everyone's mind. It isn't there yet.

Just one little incident to bring it home. A senior officer at Paddington the other day noticed some electric lights on in the open, in broad daylight. These had been passed unnoticed by scores of people; none had thought to reverse the switch—plain for everyone to see. "Nothing much in that," you will say, perhaps not, but—multiply it throughout the system and add to it all the occasions when power, heat, and light should have been switched off a little sooner, or even not switched on at all.

Please do take this very seriously. We are in deadly earnest, and would like to feel you are, too. Mr. Shinwell, Minister of Fuel & Power, has said we must save till it hurts. It will hurt if we don't!—*From the "Great Western Railway Magazine"*

* * *

The G.W.R. is making good use of some of the 680 brick A.R.P. shelters on its system. The shelters have been converted into offices, rest, staff, drying, and store rooms, cycle and tool sheds and warehouses for traders. Some of the 1,300 steel shelters used by signalmen in their boxes during the blitz periods are being converted to storage bins or sold to the staff as sheds for storing gardening tools.

* * *

Civil Service Compared with a Railway System

Our present civil service can be compared to a railway system, as solidly built and as well designed as any other in the world, but which, in a recent great emergency, had an excessive weight of traffic forced upon it. It is considerably the worse for wear. Though it was possible, during the emergency, greatly to increase the number of trucks, there was not time to build new locomotives. While the old locomotives (the top level civil servants), the best of their kind, with others borrowed for the duration, did far more work than was good for them, bottlenecks ensured that quite often the trucks had much too little to do. The original emergency is now over, but instead of an easing of the traffic, there is a likelihood of its becoming still heavier. Most of the borrowed locomotives must be returned to their owners. It is once again possible to build new locomotives, but it takes time to build them, and the locomotive works are no bigger than they used to be.—*Commander Stephen King-Hall in "The National News Letter."*

* * *

100 YEARS AGO

From Bradshaw's Railway Gazette, *January* 24, 1846

BRIGHTON RAILWAY.

PICKFORD and CO. have this day commence business as Carriers between LONDON and BRIGHTON they also receive and forward goods for the different stations upon the line of the Brighton Railway at all their London offices.

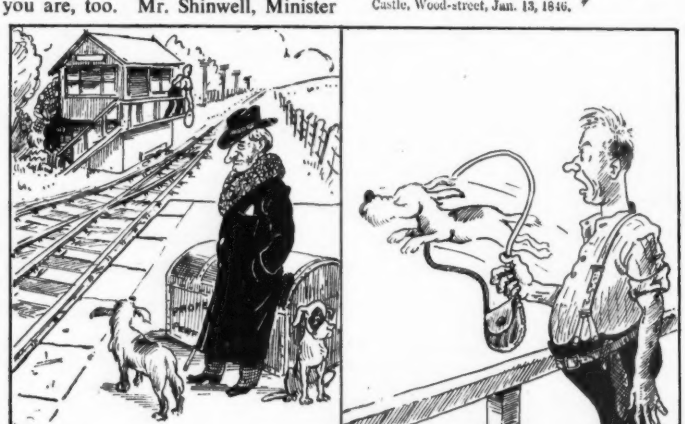
Pickford and Co. have now a daily conveyance, in and out of London, by each of the railways.

Boats, as usual, to all the chief towns in the Northern and Midland Counties.

LONDON RECEIVING HOUSES.

Castle, Wood-street, Cheapside
Railway Stations, London Bridge and Camden Town
395, Oxford-street
158, Regent-street
Wharfs, 1, and 2, City-road Basin
12, South Wharf-road, Paddington
34, Surrey-place, Old Kent Road, opposite the Bricklayers' Arms station.

Castle, Wood-street, Jan. 13, 1846.



Allez oop!

RAILWAY QUESTIONS AND ANSWERS

Statement: Railway capital is watered.

Answer: This is untrue. Many people make the allegation without really knowing what it means. "Watered" capital is nothing more than fictitious capital produced by manipulating accounts. It becomes apparent when the obligation shown on the liability side of the balance sheet exceeds the *bona fide* cost of the real assets and is affected by introducing nominal assets, for which no payment has been made (for example, goodwill), or by writing up other assets (for example, on recapitalisation, amalgamation, or reconstruction, or when purchasing power of money deteriorates). No watering of railway capital could be carried out because it is explicitly required in the statutory rules governing the form of railway accounts that nominal additions are to be excluded from that account which shows the receipts and expenditure on capital account. Thus the account shows as receipts the amounts actually subscribed, and the return on railway capital, if calculated on the receipts from capital issued, is not disturbed by alterations in stock descriptions or amounts. The effect, so far as the owners or the public are concerned, of nominal additions or reductions is therefore nil. The return paid is the same, though the percentage description of a stock may vary.—*From "Answers to Questions and Statements," issued by the British Main-Line Railway Companies, 22, Palace Chambers, London, S.W.1.*

* * *

G.W.R. Building 50 New-Type "Bloaters"

Some 68,870 tons of fish from the West of England, South Wales, and Ireland were conveyed by the G.W.R. to London and provincial markets during 1945. Milford Haven contributed 46,305 tons—the highest since 1931. All other districts showed increased tonnage over 1944. London received 19,893 tons. Further increases are expected this year, to cater for which the G.W.R. is augmenting its store of "bloaters" (fish vans) by the construction of 50 refrigerator vans of a new type for working on fast passenger and freight trains.

* * *

Operating Odes

(The stationmaster's lament)

'Twas his nature to be pessimistic,
The expression of woe that he wore
Clearly told you with no hesitation
At the moment you entered his door.

He'd an endless and woebegone story
Which he'd air at the slightest pretence
And to mention the subject of man-power
Was the cue for his tale to commence.

"Just consider what I've got for porters!"
(He would start with the lowliest grade)
"Three old women—with two of 'em cripples
And the other a love-sick old maid.

"And then look at these platelaying women:
There's no wonder we get off the road.
And the signalman ain't—she's a lady.
It would wither the patience of Joad.

"And the foreman—he's like an old woman
With his worrying, tale-bearing ways
And his tea pot. Why, give him some knitting
He'd be happy the rest of his days.

"Then the booking clerk: he's in the Forces
And they've sent me a girl of sixteen.
Well, she thinks she's got brains like Vedonis
And the face of a great movie queen.

"But the female domain doesn't end there,
It's almost the bane of my life,
For though I've got the gold braided cap on
The trousers are worn by my wife."

H. W. W.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

WEST AUSTRALIA

Swan View Tunnel Deviation

It was originally estimated that, due to the limited manpower available, the work of constructing the deviation around the tunnel at Swan View would take approximately twelve months, but manpower difficulties proved greater than expected. A service over the new line was commenced on Sunday, November 25, 1945.

Coincident with the opening of the deviation, a new timetable was introduced providing for faster services generally throughout the system. As a result of the deviation all classes of engines can now travel over the tunnel section, and tabling of trains is eased in consequence.

A new vehicular overbridge across the duplicated line near Morrison Road, east of Swan View Station, has been constructed to replace the level crossing at this point and obviate the added danger created by the duplication.

New Timetable

On November 26 a new timetable came into operation over the Western Australian railway system. The introduction coincided with the completion of the Swan View Tunnel deviation, and by the removal of this bottleneck a general speeding up of passenger services has been possible.

The use of the diesel-electric rail cars—the most popular medium of passenger transport in this State—has been extended to the limit, and beyond the bounds of the diesel service fast steam trains augment the diesels and bring remote branches within easy travelling time of the city. Uniformity of departure has been arranged for important passenger trains, and the service generally has been improved.

The additional services will be further augmented when new diesel-electric trains from England arrive.

Financial Results

Financial results for the quarter ended September 30, 1945, were:—

	3 months ended September 30		
	1945	1944	1943
	£	£	£
Earnings	961,500	1,107,600	1,102,700
Working expenses	962,901	929,968	987,758
Net revenue ...	—1,401	177,632	114,942
Interest	263,500	261,300	258,400
Loss	264,901	83,668	143,458

Earnings for the quarter were insufficient to meet working expenses and this deficiency, coupled with an interest bill of £263,500, resulted in a loss for the quarter of £264,901. The reduction in earnings reflects the decline in defence traffic, and although this was replaced to a large extent by other traffic, for example, wheat, the lower freight on this traffic is shown in the earnings. Also, shortage of coal prevented a greater train mileage, and restricted earnings accordingly.

Coaching earnings were £35,626 less than for the first quarter of 1944, accounted for mainly by the lesser movement of defence personnel. Goods earnings were down by approximately £100,000 and livestock £3,000; the latter reflected the poor season experienced last year.

Working expenses were higher by £32,933. Increased cost of fuel accounted for £10,790 of this, and material and incidental costs increased in the engineering branches, due mainly to more money spent on rolling stock repairs, sleepers, and maintenance generally.

Train mileage for the quarter totalled 1,500,459, compared with 1,583,007 train miles in the corresponding quarter of 1944. A stoppage of work by the coal miners at Collie and the necessity to restrict train services accordingly at the latter end of the quarter on account of lack of coal reduced the train mileage. Country train mileage was also affected to an extent by severe washaways experienced on some lines which prevented the running of trains over some sections for a short period. It was not practicable to adjust working costs to meet the lower train mileage run, as wages particularly had to be paid, despite the inability to maintain full services.

The operating ratio for the quarter was 100.15 per cent., resulting in a deficiency of 0.02 per cent. per annum on loan capital. For the 1944 quarter the corresponding figures were 83.96 per cent. and a net return on loan capital of 2.72 per cent.

UNITED STATES

New Station at Toledo

At Toledo, Ohio, which is the most important traffic centre on the New York Central System main line between Cleveland and Chicago, this company is planning to build a new passenger station. The station is used also by the Baltimore & Ohio, Chesapeake & Ohio, Pere Marquette, and Wabash Railroads, all of which exercise running powers into it, and these companies also will benefit by the new facilities. The station will be built approximately on the present site, and certain of the existing platforms will be used in the reconstruction, though they will be widened.

On the first floor of the three storey main station building, which will extend over nine tracks, there will be a combined concourse and waiting room, with stairways and ramps leading to the platforms. On the second floor there will be ticket offices, restaurant and rest room, and the third floor will be occupied by offices; baggage and service facilities will be on the ground floor. Access to the station will be by an inclined roadway leading direct to the second floor of the station building, from which passengers will descend to the concourse and platforms. Mail and express will be dealt with in separate buildings.

BRAZIL

Surcharges for Railway Improvements

A Decree has been signed by the President of the Brazilian Republic authorising State-owned and private railways to charge two additional surcharges of 10 per cent. on existing rates and fares. The product of one surcharge is to be used for essential improvements, and that of the other for renovating rolling stock and other material.

To facilitate the immediate partial or total financing of such improvements and the purchase of rolling stock, it is laid down that no suspension of these surcharges will be allowed during the next twenty years, so that fairly accurate calculations can be made as to terms of repayment of any loans made. Interest chargeable on such loans or other financial arrangements must not exceed 7 per cent. per annum, and agreements must provide for an anticipation of payment and consequent cessation of interest charges whenever such is possible.

If, in any circumstances, the Government makes financial provision for the improvements and purchases necessary for all or some of the railways, the operation of State credit on their behalf will be substituted for any separate financial arrangements that may have been made by the railways concerned.

All railways must submit their plans for improvements and purchases to the National Department of Railways within three months.

ITALY

Rehabilitation of Railway Industry

According to a recent report from Milan, the locomotive and rolling-stock department of Ernesto Breda S.A., one of the leading concerns of the Italian railway-supply industry, has recovered its production capacity to the extent of 80 to 85 per cent. of its pre-war potential. This comparatively speedy recovery is explained by the fact that the Breda main works at Sesto San Giovanni, a few miles to the north of Milan, which comprise the department in question, suffered only slight damage through the war, except for the aviation department, which was destroyed.

Train Service Restorations

A further result of completion of the emergency bridge over the Po, near Piacenza (reported in *The Railway Gazette* of November 30, 1945) has been the restoration of through trains between Milan and Genoa. A service of three stopping trains daily in each direction was resumed on November 1, 1945. Communications between Milan, Verona and Venice, as well as with Cremona, also were improved as from the same date. On the Italian section of the Brenner line, double-track working and electric traction was resumed on November 14, 1945.

SWITZERLAND

Federal Railways Traffics

Approximate traffic figures for the first nine months of 1945, which have now been issued officially, show that working receipts for the period decreased by about 4·8 per cent. compared with those for the corresponding months of 1944. The comparative figures are shown below:—

	January-September, 1944	1945
	Swiss francs	Swiss francs
Passengers	165,486,128	187,905,206
Goods, luggage, livestock, and postal	202,525,611	162,566,157
Miscellaneous	13,363,676	12,326,376
	381,375,415	362,797,739

The increase of approximately 13½ per cent. in passenger receipts was partly offset by the substantial decrease in goods receipts, amounting to approximately 19¾ per cent. The decline in goods traffic receipts was less pronounced in the third quarter of 1945 than in the second quarter. This was, in the main, due to the revival of international traffic, although the total tonnage conveyed in the third quarter of 1945 was still below that obtained in the same quarters of 1944 and 1943. The increase in goods traffic with France (and in transit through France from overseas countries) was particularly noticeable, totalling 240,000 *tonnes* in the third quarter compared with 153,840 *tonnes* in the second and with only 36,716 *tonnes* in the first quarter of 1945 (these three figures referring only to traffic to destinations in Switzerland).

The Running Man's Ideal Locomotive*

Features of design and construction which make for reliability in service and ease of maintenance

BETWEEN the Locomotive Running Department and the shops is a great gulf fixed. Although officials of the former invariably have served their time in a railway workshop and are conversant with the shops' point of view, the average shopman never has had anything to do with a running shed or with railway operating, and is a little inclined to view the sheds as a nuisance. In the Army, too, the Locomotive Officers of a Railway Operating Company are not often interchangeable with those of a Railway Workshop Company; the latter are similar in function to the personnel of a Port Maintenance Company.

Who should be the Designer?

Here, then, is the anomaly that the locomotive is designed and manufactured by the Chief Mechanical Engineer and his shopmen without detailed reference to the users of the product, who are to be saddled with it for perhaps 40 years. Is not this wrong? Should not the Running Superintendent be the designer, and the Chief Mechanical Engineer merely his "contractor" for building?

We are thus led to the heretical suggestion that a Chief Mechanical Engineer, as such, is not necessary; that the designing part of his duties be taken over by the Running Superintendent, who would have a Works Superintendent under him for all shop repair work; and that all new locomotives be purchased from manufacturing firms to the designs of a committee of Running Superintendents.

Running men say they never have enough machines, drop pits, and equipment in their sheds, enough fitters, or enough room. To the beginning of the war, many private companies had been the reverse of wealthy; and extensions to running sheds were kept to a minimum, quite apart from the fact that the Locomotive Running Department always seems to be the "Cinderella" of the service.

How many District Locomotive Superintendents have uttered oaths when new engines have appeared with complicated feed pumps, fuel-saving devices, and inaccessible pipes, all of which in the aggregate are supposed to cause the locomotive to run on zero fuel consumption. Drivers, too, dislike and distrust such innovations.

Undoubtedly the most suitable general-purpose engine is a 2-cylinder 4-6-0 on the lines of the very popular L.M.S.R. class "5." A wheel dia. of 5 ft. 9 in. is suggested, with two 21-in. cylinders and a boiler pressure of 220 lb. per sq. in.

The boiler should be of the parallel type, with a good-size Belpaire box. The outer shell and inner firebox should be of good-quality steel. With modern welding practice, use of oil fuel, and so on, a copper inner firebox is outmoded. Longitudinal stays and not roof bars should be provided, as the former facilitate inspection. All roof stays should be riveted with water in the boiler; heating and riveting dry will overheat locally the threads in the crown sheet, and cause subsequent chronic leakage. The boiler should be inverted in the boilershop, filled with water, and the roof stays heated with oxy-acetylene and then riveted. With this practice, roof stays can be discounted as a work-provider.

Another bugbear is the riveted firehole ring, which causes the plate around it to overheat and eventually leak. Its replacement is always a big job in a shed. Dishing the backplate inwards and bending round and riveting direct to the inner plate is better than this, but by far the best results are obtained by a simple welded firehole.

Both superheater and small tubes should be of steel. The normal method of expanding into a copper ferrule, beading over, and then spot-welding, usually gives rise to leakage. The American method is undoubtedly best, countersinking the tubeplate, putting in the tube steel to steel, prossering with sectional expanders on the water side to seal, flaring over the tube into the countersinking on the fire side, and then welding solid to the tubeplate.

There should be a multiplicity of washout plugs; plain taper plugs of bronze, where hard waters are used, or mild-steel coated with grease and graphite for soft waters. Washout doors with bridge and nut are a nuisance.

The most suitable regulator is the multiple-valve type combined in the superheater header, with external regulator rod and ratchet-arc operating handle on both driver's and fireman's side. This, whilst avoiding a snifting valve, retains steam in the elements at all times when standing or drifting and avoids the burnt "torpedo" ends. The trouble caused by the loss of a splitpin in the internal operating gear is also eliminated. The internal main steampipe, which is such a job to take out in a shed when it perforates or leaks, should be replaced by a very short elbow expanded into the smokebox tubeplate to take steam from a point as far above the water level as possible.

If the header is made of cast iron, special attention should be given to the neck, as this is where cracks usually develop. The elements should be of Melesco torpedo-end pattern, with spherical steel ends and sliding block. The thickness of the tube walls should be at least 9 s.w.g.

Most Suitable Smoke-Box

By far the most suitable form of smokebox is the plain circular drum on a saddle (G.W.R. type). No air can be drawn through the floor with this pattern. The door should be fastened by six circumferential clamps, not by wheel, arrow, and crossbar. The main steampipes should be swaged and expanded into steel flanges and belled over at the mouths, finally being welded round the point where they enter the flange. Smokebox ashes should be discharged through a hopper or chute.

A simple steam fountain for all cab accessories should be situated on top of the firebox but just outside the cab; the placing of the steam fountain inside the cab increases the heat and is unpleasant for the driver in summer. In addition, it is extremely difficult to attend to blowing nuts and joints on a steam fountain inside.

For feed water, two simple understep injectors are best, preferably of the Metcalfe hot-water type. In hot climates, such as Persia, where feed-water temperatures from the tender varied in midsummer from 96 deg. F. to 109 deg. F., ordinary live steam or exhaust steam injectors could not be made to operate satisfactorily. Lifting injectors are liable to get hot and refuse to start; if, however, lifting injectors are insisted on, the most suitable is the Sellers Monitor. If it fails when an engine is about to leave the shed, it can be changed in 15 minutes.

Feed pumps, feed heaters, and so forth, though excellent theoretically, never live up to their reputation. They are expensive to maintain, the pump steam distribution arrangement frequently gets out of order, pipes break, joints leak, and heater tube nests continually have to be cleaned in acid.

Clack boxes are best placed at the side of the barrel rather than on top. Top feed has some advantages, but opinion in most parts of the world is that top feed is more liable to produce priming than side feed. The clack boxes should be provided with a stop valve so that the clack valve may be taken out and cleaned with the engine in steam.

The elbow where the blower pipe enters the smokebox should have a spigot and stop valve whereby the blower ring may be used "artificially" for lighting up from a steam line, as in American and Italian practice.

An "everlasting" gate-type manual blowdown cock should be fitted to the throatplate, operated by a pull-and-push lever in the cab. If the handle is not in the cab, drivers will never be persuaded to use it, and it is most desirable for renewing water in the boiler when a washout is not possible, and for curtailing priming on the road, and sludge removal.

Invite Criticism

When a locomotive is designed, a full-size wooden model of the cab should be built, with all accessories. Some 25 drivers from the links on which the engines will run should be invited to criticise it. If this were done, fewer fingers would be burnt when trying to tighten-up blowing pipe-joints.

The driver's brake valve should be in front of the driver and far lower down than normally is the case. The multivalve regulator handle, of the forwards-backwards type, should be slightly to the driver's right-hand side. A shield to keep glare from the eyes should be provided.

The cab should be as roomy as possible, with roof and sides in one piece, and plenty of overhang for the roof. Some modern Indian and Egyptian locomotives, and many of the German austerity "52" class, have a tender cab, but this has disadvantages in hot weather. For bad weather and going tender first, a stout weather sheet between cab and tender is essential. It should be on a spring-loaded roller at the back of the overhang (like a window blind), hooking to brackets on the tender. Side windows are not recommended. They get broken and one finds them filled in with tin sheets. It is better to provide one large opening on each side similar to engines on the Great Indian Peninsula Railway and the Egyptian State Railways, but here again a stout sunblind on a spring-loaded roller is required. The side openings should be provided with a narrow windshield of thick glass. A wooden windowsill is also necessary for the enginemen to lean their arms on. The Southern Railway "Merchant Navies" have vertical back panels with small windows at the rear of the cab; this gives extra support to the cab structure.

Much maintenance is necessary on wooden cab floors. It is more desirable to follow old L.N.W.R. practice and have a chequered steel floor, with fixed wooden duckboards for driver and fireman.

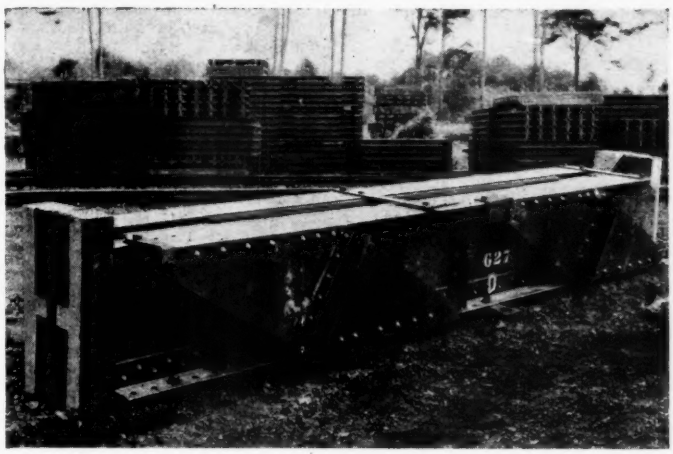
Frames should be unquestionably of the

(*Continued on page* 101)

* Summary of paper by Colonel W. L. Topham, O.B.E., M.I.Loco.E., presented to the Institution of Locomotive Engineers in London on November 28. 1945

Standard Military Railway Bridges—6*

A description of the Everall Sectional Truss Bridge—the largest standard military bridge used by the Allies—its various forms, and methods of erection including that used at Deventer, Holland



Typical pack weighing about 2½ tons ready for shipment

THE Everall Sectional Truss Bridge (E.S.T.B.) is now the standard type of military bridging equipment used by the Allies for spans of from 80 ft. (26 m.) to 400 ft. (131 m.), and particularly for spans of over 150 ft. in length. It is aptly named after the Chief Instructor of Bridging at the War Office, Lt.-Col. W. T. Everall, O.B.E., R.E., who has been responsible for nearly all the types of field railway bridges used by the Allies in the war. Its outstanding features are (1) that, in spite of its size, the length of span when necessary can be varied in increments of 6 in. (15 cm.), so as to fit exactly the spacing of existing piers; (2) it is made up of comparatively small parts, all of which can be manhandled; and (3) it may be erected as a cantilever of up to 300 ft. in length, and yet the final closure can be assured, rapidly and easily.

E.S.T.B. material is erected in the field either as deck spans, half-through spans, or through spans. Its design has been specially prepared to permit of straightforward and rapid erection. The units are produced from commercial mild-steel sections to fine limits of tolerance by means of precision jigs. These jigs enable the components to be fabricated without the usual delays resulting from planning, design, template-making, and production organisation.

Ubiquitous Equipment

All the various types of bridge constructed with this material conform to the Berne international structure gauge, and are suitable for all normal track gauges from metre to 4 ft. 8½ in., and also for 5 ft. 6 in. with the simple addition of extra bolt holes in the cross girders for wider-spaced stringers. Although the parallel-chord design of all E.S.T.B. types makes for slightly heavier bridges, where large spans are concerned, than those designed in normal civil practice, it shows the same economy in material as is secured generally by civil designs in the case of the smaller and more widely-used range of bridges.

E.S.T.B. structures, though they may be up to 400 ft. in length, are built of comparatively small components. The standard chord component, known as G1, is 20 ft. in length, weighs 1,270 lb., and is capable of being handled with bars by about a dozen men. It is the heaviest essential standard part, except one or two others in the end-post assembly which are suitable for a larger number of men to handle. The design of all types of E.S.T.B. centres on the G1 component. The chords are strengthened according to the numbers of G1s used side by side or in tiers. The G1 has one straight side but the other is shaped so that at both ends and at the centre it is deeper for jointing. The standard panel-length is 10 ft.; the G1 extends over two panels. Parallel G1s are staggered.

To enable overall span-lengths to be adjusted to exact pier-spacing that is not a multiple of 10 ft., adjustable end-posts are available. In effect, these end-posts provide a plate-girder construction for 5 ft. at each end of the span, so arranged that the lattice web system can find its attachment at any position throughout the width of this post. This type of end-post, therefore, can be fastened in any desired position relative to the main girders, and the overall length of the span can be varied over the panel range in 6-in. increments.

Vertically, 15 ft. is the panel depth, and truss depths are multiples of 15 ft. Apart from the end posts, the vertical components are lighter than the G1s. Diagonals are arranged as required.

Special attention is given to ensure the ready availability of the very large number of these small components required for a bridge. They are made into standardised packages or crates for transport to site. Every component is marked with its identification number not only with paint but also by punching. Care is taken to pack all vulnerable and small parts to prevent damage and loss, respectively, in transit. Though almost all weigh less than 11 cwt. each, the components are nested together in the proportion that construction demands, forming packages of about 2½ tons weight, an economic load for a light crane; this greatly simplifies and expedites loading and unloading. In the package illustrated at the head of this article are all the components for one portal frame with top lateral bracing for one panel of a bridge. Vulnerable corners are protected with timber, and slinging attachments are provided. Standard instructions state the contents of each package, and contain lists of the packages required for any size and type of span. Bolts are packed in 150-lb. boxes, and these, in turn, are crated to make 2½-ton packages; each crate has standard contents. Everything, therefore, is in clearly-marked, easily-handled, standardised packages, the contents of which are ascertainable at a glance from the lists.

When ordering E.S.T.B. spans it is sufficient to state the span-length between centres of bearings, and give the type as shown on the master diagrams. If the military method of erection by cantilever or launching is adopted, certain additional components are required, most of which are recoverable after erection. The method of erection, therefore, must be stated when ordering, and also the standard erection equipment required, such as creeper cranes or launching rollers.

Deck Spans

E.S.T.B. deck spans are available for the shorter bridge lengths within the general range stated in the opening sentence of this article. For single track, the spans are 9 ft. 6 in. wide and 15 ft. deep, and may be any length from 80 ft. to 130 ft. (42 m.). A double-line deck span measures 20 ft. 7 in. in width, 15 ft. in depth, and up to 180 ft. (59 m.) in length.

The range of these spans and loadings for which they are suitable are shown in the table below. It will be noted that in it a description of the essentials of each type of span is indicated by a mid-span letter and number. This ingenious form of labelling is based on the principle that the middle of any span is its strongest construction, to resist the maximum bending moment. The mid-span type-letter, therefore, indicates the type of standard cross section (and, incidentally, the number of various members used in it) required throughout the central panels of the span; the number is the depth of the span in feet, 15 ft. in the case of deck and half-through spans, and in through spans a multiple of 15 ft.:—

SINGLE-TRACK DECK SPANS

Mid-span type	Wt. per ft. run (tons)	Maximum length in feet of span permissible for various standard loadings			Permissible speed
		16 B.S.U.	18 B.S.U.	20 B.S.U.	
M 15	0·90	90	85	80	Normal
N 15	0·93	115	105	100	,,
O 15	0·95	135	130	125	,,
P 15	1·05	150	150	145	,,
DOUBLE-TRACK DECK SPANS					
Q 15	2·00	165	160	155	15 m.p.h.
R 15	2·20	180	180	175	Normal

From a table, of which the above is a simplification, a suitable and economic type of span can be quickly selected to suit any loading and span within the deck-span range.

Deck spans may be either square-ended or of the under-slung type with raker or diagonal ends; the latter type shows an economy in material. For instance, an under-slung 180-ft. span weighs under 2 tons per ft. run as against 2.20 tons in its square-end counterpart. With the

* Previous articles in this series appeared in our March 2, April 6, April 20, May 18, and June 8, 1945, issues

under-slung type, however, span-length can be varied only in 10-ft. increments.

Half-Through Spans

Where construction depth is an important consideration in spans up to 200 ft., selection can be made from a range of half-through span types. These are square-ended, and exact lengths are obtainable as with the square-end deck spans. They are, however, suitable only for single track, and, as will be seen from the table below, weigh about 0.05 tons per ft. run more than the corresponding deck spans of from 80 ft. to 115 ft. In longer spans there is considerably greater difference.

Mid-span type	Wt. per ft. run (tons)	Maximum length in feet of span permissible for various loadings		
		16 B.S.U.	18 B.S.U.	20 B.S.U.
F 15	0·95	90	85	80
G 15	0·98	115	110	105
H 15	1·00	125	125	120
J 15	1·10	135	130	125
K 15	1·20	140	140	135
L 15	1·30	150	150	145

Where multiple spans in a bridge necessitate the provision of refuges between spans, raker or diagonal end construction can be used.

Through Spans

For spans of over 180 ft. in length the through type of E.S.T.B. is available. Components similar to those used for the deck and half-through types can be assembled to form through spans either 30 ft. or 45 ft. deep. Generally, 30-ft. trusses are used for spans up to 340 ft. in length, and 45-ft. trusses for the larger spans up to 400 ft., but the 45-ft. truss is also used occasionally for spans of under 340 ft. In all cases the main girders are of the parallel-chord square-end type, and their lengths are capable of close adjustment to bearing centres. The following table shows the range of these spans:—

Mid-span type	Wt. per ft. run (tons)	Maximum span (ft.) to carry 20 B.S.U. loading
A 30	2·19	200
C 30	2·76	240
C 45	3·43	280
B 30	2·63	290
E 30	3·13	310
D 30	3·38	340
E 45	3·91	370
D 45	4·10	400

Erection

In all types of E.S.T.B. span, connection between the various components is made by a combination of bolts and hammer-driven drift pins. The bolt-holes are of such a size that riveting can be adopted if greater permanency is desired. The close tolerances resulting from the use of jigs insures the easy and rapid assembly of all components.

Any of the ordinary civilian methods of erection can be used, such as flotation, staging, direct lift, and derrick and preventer. Special attention was paid in the design of this equipment to make rapid erection possible under the most difficult site conditions, as, for instance, in high viaducts over wet gaps or deep ravines.

The method often used for spans up to 200 ft. is by launching from the approach with the aid of a launching nose made from bridge components. When several spans are to be launched, they can be coupled up end-on and rolled forward as a continuous span without resort to a special launching nose. Provision is made in the equipment both for simple components to facilitate such end-to-end coupling and for adequate jacking stations for use in uncoupling the spans and in their final adjustment.

300-ft. Erection Cantilevers

For spans up to 320 ft. it is possible to build a cantilever right across the gap. This, however, requires a chord construction at the support with a strength considerably greater than is necessary for the completed span, and involves material which must be removed after erection.

The perspective drawing reproduced shows a hypothetical 300 ft. span being built by this method. It is coupled to the neighbouring span on the extreme left which acts as the counter-weight, and the short length of span on the right, carried by the trestle pier, is on jacks so that it can be adjusted to meet the sag and other deviations from truth in the long cantilever when the junction panels are erected.

Incidentally, this drawing shows the various construction types used in the cantilever. The panels on the left, which have to be strongest, are of heavy constructions, D30 and E30. Towards the centre of the span the lighter construction type, B30, is used, and finally towards the outer end on the right, A30 is adequate and suitable, due to its lightness. The manner in which the heavier construction types are built up can also be seen. The chord members of A30 each have only one tier of G1 components; B30 has two tiers back-to-back, and E30 and D30 have more G1 units side by side in each tier. When the span is complete and capable of taking loading, these types of construction will be modified, the heaviest types being built up in mid span.

Method of Closure Adjustment

Where the site allows a small amount of staging, the maximum cantilever allowable with normal span end-strength can be constructed and coupled to a short section of the bridge built on this staging. This comparatively short length of the span—perhaps from 40 ft. to 80 ft.—is such that it can be carried entirely on jacks and easily traversed both longitudinally and transversely as a whole. The remainder of the span is then built out—with creeper cranes running on rails along the top chord—from the other side of the gap. The final length of the cantilever may be as much as 260 ft. before it reaches the short length of span on staging on the other side of the gap for final joining up. This long cantilever is bound to sag to some extent, but it is extraordinary how little this amount is, considering the multiplicity of joints there must be between its components; this is due to the use of the jigs and precision fabrication. However, the sag will be sufficient for the outer end posts to be out of vertical and alignment, and it is then that the jacking and traversing of the shorter length of the span on the staging are used to adjust it to the angle and position of the sagging end of the longer cantilever part of the span and so make possible the rapid joining up of the two parts.

E.S.T.B. on Field Service in Holland

The first E.S.T.B. to be used on field service has recently been completed, and was formally opened on November 1. It has been built to replace the totally demolished railway bridge across the Ijssel River at Deventer in Holland. The following are some introductory notes regarding this bridge, followed by a description of it and its construction.

In view of the possibility of damage occurring to the temporary rail bridges over the River Rhine during the coming winter by icing, and the resultant closing of these routes, it became necessary to repair another route from a North Sea port to the British Occupation Area of northern Germany. The route Hengelo-Deventer-Utrecht-Hook of Holland was selected, as presenting the minimum engineering difficulties.

The most serious damage sustained on this route was, however, the complete demolition by the retreating Germans of the Deventer bridge, consisting of eight spans of 120 ft. and three of 230 ft. As all these spans were damaged beyond repair, and as the administration of the Netherlands Railways put up a strong case for leaving the original alignment clear for permanent reconstruction at a later date, it was decided to build a new bridge, complete with approaches, parallel to and 70 ft. upstream from the old bridge.

At this point the Ijssel flows along the eastern side of its flood plain and has a summer width of about 500 ft.; in winter it spreads out to some 1,600 ft., the full width between its dykes. It carries heavy waterborne traffic and is subject to severe icing conditions in winter.

The Design Adopted

It was, therefore, decided (1) that the new bridge should have the same waterway as the old; (2) that the new and old piers should be as nearly as possible in line with one another, and sufficiently strong to withstand the worst winter conditions, and (3) that the new structure should be of such a general standard as to last 10 years, by which time a new permanent bridge can be built on the original alignment.

The final design was worked out by the Royal Engineers in collaboration with Mr. Mundt, Chief Engineer of the Netherlands Railways. They agreed that the western flood spill channel should be bridged with a series of U.C.R.B. spans carried on light standard steel trestle piers, and that for crossing the main channel three E.S.T.B. spans, each 230 ft. in length and supported by heavy trestle piers, should be used. It was also agreed that the Netherlands Railways would be responsible for the design and construction of all foundations assisted with military plant and equipment as necessary, and that Railway Construction Troops would be responsible for design and construction of trestles, piers, and all superstructure. The approach gradients were worked out to correspond as nearly as possible to the original, after allowing for differences in construction depth and for providing the same clearance over the waterway.

R.E. Personnel Employed

The No. 3 Railway Construction & Maintenance Group, R.E., commanded by Lt.-Colonel W. S. Miller, M.B.E., R.E., was engaged on the work, and consisted of the following units: the 167th Railway Bridging Company, R.E.; the 8th, 600th and 607th Railway Construction Companies, R.E.; and the 168th Railway Survey Company, R.E. In addition, a Mechanical Equipment Section from the 186th Mechanical Equipment (Tn.) Company, R.E., was attached for the earthwork and to operate the cranes.

The method of construction of the

Everall Sectional Truss Bridge Material Used as a Through Span

Perspective drawing of the hypothetical erection of a 300-ft. span by the cantilever method from the pier on the left, to close with the short adjustable length of span supported by the pier on the right. Note the graduated construction types used as the cantilever extends

U.C.R.B. approach spans was perfectly straightforward. The bottom chord sections were pre-assembled on the ground and lifted by No. 19 Ruston-Bucyrus cranes direct on to their seatings; they were supported at mid-span by a single V-trestle bent. The remainder of the bridge was then lifted up piecemeal by cranes and bolted up. An average progress of one span per crane per day complete was possible by this method.

The easy camel's-foot adjustment of the V-trestle bent rendered accurate levelling of the temporary bases unnecessary and permitted them to be freed of their load very quickly. The trestles were light and easily transported from span to span as required.

Erection of E.S.T.B. Spans

The three E.S.T.B. spans were constructed partly on falsework and partly by end-on cantilever construction. The easternmost span was constructed entirely on falsework, and, by means of special coupling plates, was used as counterweight to enable the first 160 ft. of the second span to be cantilevered out to meet the remaining 70 ft. of span constructed on more falsework. These two spans were then unlinked and the third span built similarly to the second.

Under the west span on the dry, the falsework consisted of V-trestling at 10-ft. centres carried on camel's feet to permit of rapid levelling on the sloping foreshore; V-trestling is very adaptable and is well-suited to this type of work. All wet falsework was founded on 14-in. by 14-in. timber piles with a standard arrangement of bracing and top bearing sills.

The theoretical deflection of the maximum cantilever was calculated, and the levels of the bearings at the rear end of the counterweight span so adjusted as to bring the junction panel to a vertical plane for junctioning with the fixed portion, which itself was built at a higher level to suit.

The actual span junctioning proved easier than had at first been thought possible, and it took but half a day longer to complete the joint bay than a normal one.

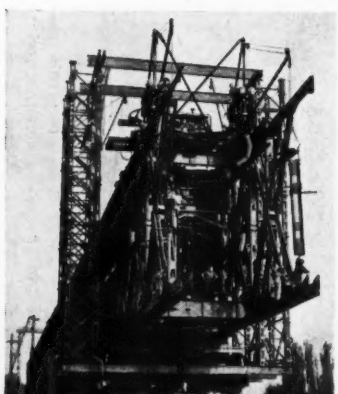
It is also of interest to note that despite the apparently greater difficulties, a quicker rate of progress was achieved in the construction of the cantilever than in the construction of spans supported on falsework. This was due to the time taken in setting packs and in adjusting the alignment when building on falsework.

Dates of Completion and Opening

The bridge, which includes the largest spans built by allied forces in this campaign, was completed on October 24, and the following week was devoted to removal of falsework, laying of track, and load-testing with double-headed trains.

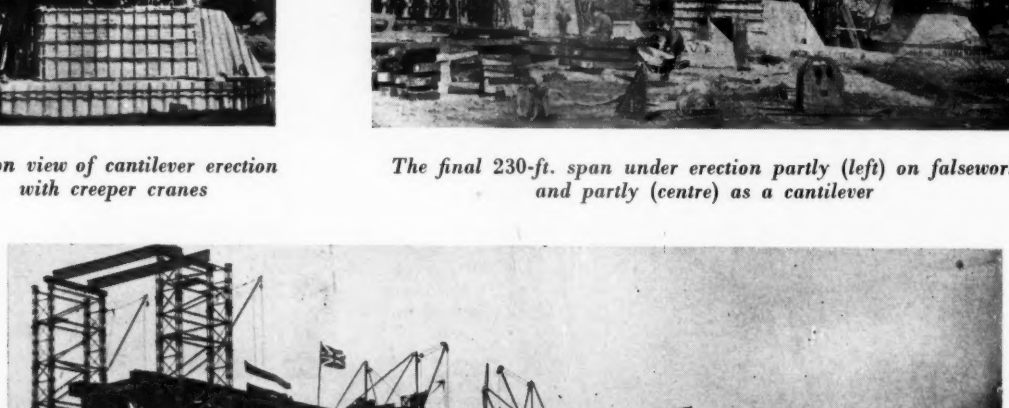
The official opening took place on November 1 when the first leave train passed over, driven by Major-General McMullen, C.B., C.B.E., D.S.O., of the Transportation Division, German Control Commission, in the presence of Mr. Hupkes, President of Netherlands Railways, Mr. Mundt, Chief Engineer, and other prominent members of the railway staff.

Erection of E.S.T.B. Through Spans at Deventer, Holland



End-on view of cantilever erection with creeper cranes

The final 230-ft. span under erection partly (left) on falsework and partly (centre) as a cantilever



The final closing of the two parts of the last 230-ft. span, with the cantilever extended to meet the shorter part of the span on falsework

RAILWAY NEWS SECTION

PERSONAL

Mr. Oliver R. H. Bury, Chairman of the London Electric Supply Corporation Limited, has retired from the board, and the Hon. Eric B. Butler-Henderson, a Director of the corporation, has been elected Chairman. Mr. Bury recently retired from the board of the London & North Eastern Railway Company, and Mr. Butler-Henderson is a Director of that company.

Mr. Oliver R. H. Bury has resigned the Chairmanship of the London Power Co. Ltd. The Earl of Lytton succeeds him as Chairman of the company.

Sir T. Eastaway Thomas has been appointed a Director of the Lancashire United Transport & Power Co. Ltd. Sir T. Eastaway Thomas, who retired recently from the position of General Manager, London Passenger Transport Board, received the honour of knighthood in the New Year Honours.

We regret to record the death on January 19, in his 85th year, of the Rt. Hon. Lord Plender, Bt., G.B.E., LL.D., F.C.A., the eminent accountant, Senior Partner in Deloitte, Plender, Griffiths & Company. Lord Plender was a Stockholders' Auditor of the Great Western Railway Company. (*See also editorial note*).

Major R. K. Hubbard, Co-ordinator for Post-War Planning of British-Argentine Railways, has returned to Buenos Aires after visiting Great Britain, the U.S.A., Switzerland and France to investigate matters connected with diesel traction.

The Cement & Concrete Association has appointed Sir Francis Meynell to be the Director of the Association. Sir Francis Meynell received the honour of knighthood in the New Year Honours.

Dr. Roland E. Slade, Research Controller of Imperial Chemical Industries Limited, has retired.

L.M.S.R. STAFF CHANGES

Mr. H. B. Taylor, Assistant, Station Working, District Goods Manager's Office, Broad Street, to be District Operating Manager, London (Midland).

Mr. W. C. Mullenger, Outdoor Assistant, Office of Divisional Superintendent of Operation, Derby, to be Assistant District Operating Manager, London (Midland).

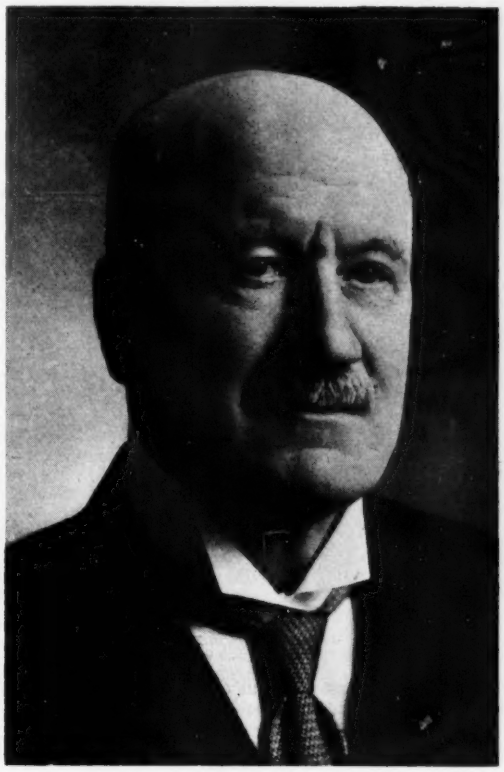
Mr. H. Vernon, Head Office Inspector (Accommodation), Office of Divisional Superintendent of Operation, Derby, succeeding Mr. W. C. Mullenger as Outdoor Assistant, Office of Divisional Superintendent of Operation, Derby.

Mr. C. R. N. Gore, Assistant District Controller, Kentish Town, to be Assistant to District Operating Manager, London (Midland).

Mr. H. Brinklow, Assistant District Controller, Fenchurch Street, to be Assistant to District Operating Manager, London (Midland) (located Fenchurch Street).

We regret to record the death on January 19, at the age of 77, of Mr. William Whitelaw, LL.D., who was Chairman of the London & North Eastern Railway Company from 1923 until 1938, when he retired from the board. Mr. Whitelaw had been a railway director since 1898. He was born on March 15, 1868, third son of the late Mr. Alexander Whitelaw, who was closely associated with the late Mr. James Baird in developing the mineral resources of the south-west of Scotland. Mr. William Whitelaw was educated at Harrow and at Trinity College, Cambridge. He represented Perth City as a Conservative in the House of Commons, 1892-95. In 1898 he joined the board of the Highland Railway Company; he was elected Deputy-Chairman in 1900, and Chairman shortly afterwards. He became a Director of the North British Railway Company in 1908, Deputy-Chairman in 1910, and Chairman in 1912. In view of the responsibilities devolving on him in the last-mentioned capacity, he then resigned the Chairmanship of the Highland Railway Company; but he remained on that board as Deputy-Chairman, and, in consequence of Mr. R. M. Wilson's breakdown in health in 1915, temporarily resumed the Chairmanship, at the request of his colleagues, in November of that year. He retired again from the Chairmanship in March, 1916, but did not resign his Directorship until 1918. He remained Chairman of the North British Railway Company until 1923, when he became the first Chairman of the London & North Eastern Railway Company. He resigned the Chairmanship and his seat on the board in 1938. At the time of his death, Mr. Whitelaw was a member of the L.N.E.R. Scottish Area local board, and a Director of the Forth Bridge Railway Company, and of the Bank of Scotland. He had been formerly Chairman of the Gifford & Garvald Railway Company, Samana & Santiago Railway Co. Ltd., Glasgow Subway Railway, and Glasgow Harbour Tunnel Co. Ltd. He was President of the Institute of Transport, 1933-34. Mr. Whitelaw took a leading part in the affairs of the Church of Scotland, and attended the General Assembly, at which he often spoke. In recognition of his services to the Church of Scotland, he was presented, in 1937, with a portrait of himself by Mr. W. R. Brealey. A service for Mr. Whitelaw was held at Ratho Parish Church at 11 a.m., and the funeral, which was private, took place at Old Monkland Cemetery at 3 p.m., on January 23.

(*See also editorial article, page* 87, *and appreciation, page* 104).



The late Mr. William Whitelaw
Chairman, London & North Eastern Railway Company, 1923-38

SOUTHERN RAILWAY APPOINTMENT

General Manager's Office

Mr. E. G. Trangmar to be Personal Assistant to the General Manager.

Mr. R. B. Jones, Engineer of Track, Canadian Pacific Railway, since 1939, has been appointed Assistant Chief Engineer of the system. Mr. W. G. Dyer, previously Division Engineer at Penticton, B.C., succeeds Mr. Jones as Engineer of Track.

Brigadier-General A. C. Critchley has tendered his resignation to the Minister of Civil Aviation from the post of Director-General, British Overseas Airways Corporation, and from the board of B.O.A.C., and it has been accepted.

We regret to record the death, on January 19, at the age of 76, of Major-General F. S. Meighen, C.M.G., a Director of the Canadian Pacific Railway Company, and President of the New Brunswick Railway Company.

Mr. Theophilus Williams, Dock & Traffic Manager, Port of London Authority, has been appointed General Manager, in succession to Sir Douglas Ritchie, whose retirement from that position and election as Vice-Chairman of the Authority was recorded in our January 11 issue.

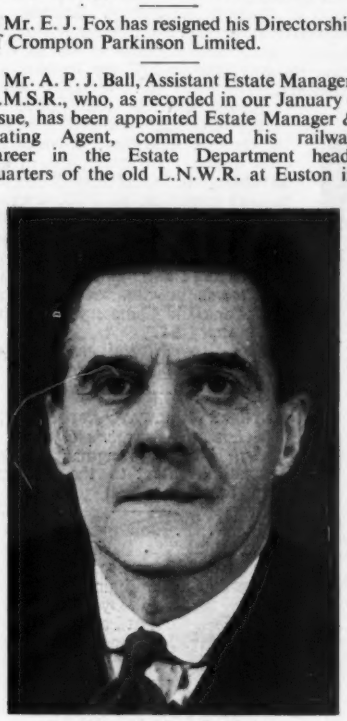
Mr. Colin Leslie Forbes has been appointed a Director of Greenwood & Batley Limited.

Mr. E. C. Evans, B.Sc., F.R.I.C., F.Inst.F., who for many years has been closely associated with scientific research in the fuel and iron and steel industries, recently retired from the British Iron & Steel Research Association, in the organisation of which he played an active part. He is continuing to undertake scientific and technical activities in an advisory capacity to a range of industries. Until recently, Mr. Evans was Technical Secretary to the Iron & Steel Industrial Research Council, which early

in 1945 was re-organised as the British Iron & Steel Research Association. Mr. Evans was asked to defer his retirement until Sir Charles Goodeve, the Director of the Research Association, could be released from his official duties at the Admiralty as Assistant Controller in charge of Research & Development; Sir Charles Goodeve took up his appointment in October, 1945.

Mr. E. J. Fox has resigned his Directorship of Crompton Parkinson Limited.

Mr. A. P. J. Ball, Assistant Estate Manager, L.M.S.R., who, as recorded in our January 4 issue, has been appointed Estate Manager & Rating Agent, commenced his railway career in the Estate Department headquarters of the old L.N.W.R. at Euston in 1904. After passing through various sections of the department, and on return from service in Mesopotamia in the war of 1914-18, he spent three years in the London District Estate Office as a General Assistant. He then returned to headquarters, where he remained until January 1, 1928. During that period he passed the Surveyors' Institution intermediate examination. On January 16, 1928, he was appointed Acting District Estate Agent for the London area in succession to Mr. J. R. Worrall. That appointment was confirmed on January 1, 1929, and he remained in the position until November 30, 1931, when he was appointed Divisional Estate & Land Agent, Glasgow, that area covering the company's property in Scotland and Carlisle. On Mr. W. H. C. Clay's retirement and Mr. W. H. Roberts' promotion to be Estate Manager, Mr. Ball returned to headquarters on February 1, 1943, to take up the position of Assistant Estate Manager.



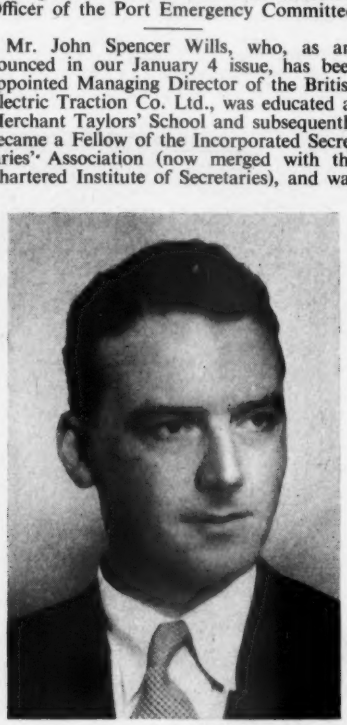
Mr. A. P. J. Ball
Appointed Estate Manager & Rating Agent, L.M.S.R.

The late Mr. Edward Lowther, who was Chief Docks Manager, Great Western Railway, from 1924 to 1926, left £26,963.

Mr. J. B. Chevallier, formerly in charge of the operations of Southdown Motor Services Limited in Portsmouth, has joined the East Kent Road Car Co. Ltd., and will be appointed Traffic Manager as from March 1, 1946, to succeed Mr. F. W. Sellwood, who is to take up a position as Traffic Manager with Southdown Motor Services Limited.

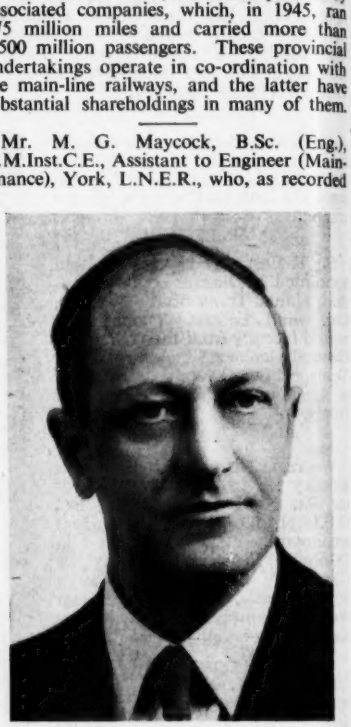
Mr. J. G. Merriweather, General Superintendent of the Port of Preston Authority, has tendered his resignation with a view to retiring on March 31. He is a member of the Dock & Harbour Authorities Association, and of the National Council for Port Labour Employers, and a former Member of Council of the Institute of Transport. During the war he has acted as Executive Officer of the Port Emergency Committee.

Mr. John Spencer Wills, who, as announced in our January 4 issue, has been appointed Managing Director of the British Electric Traction Co. Ltd., was educated at Merchant Taylors' School and subsequently became a Fellow of the Incorporated Secretaries' Association (now merged with the Chartered Institute of Secretaries), and was first Chairman of its Hull & Grimsby District Centre. He joined the B.E.T. in 1921 and has held many different appointments during the intervening quarter of a century. From 1922 to 1923 he was Assistant to the Secretaries of the British Electric Traction Co. Ltd. From 1924 to 1926 he was Secretary to the Wrexham & District Transport Co. Ltd., and Assistant Secretary to the Greenock & Port Glasgow Tramways Company, the Scottish General Transport Co. Ltd., and the Rothesay Tramways Co. Ltd. In 1926, he was appointed Secretary & Accountant and subsequently General Manager of the East Yorkshire Motor Services Limited, which office he held until 1931, when he was promoted to be an Executive Director of several bus companies in the B.E.T. Group. In aviation, he has held a pilot's licence since 1933, and until October, 1942, when the share interests he represented were purchased by the railway companies, he was Managing Director of British & Foreign Aviation Limited and Chairman or a Director of a number of internal air transport undertakings. In 1939 Mr. Wills was elected to the board of directors of the British Electric Traction Co. Ltd. He is also Chairman of many of its associated bus-operating companies, and a Director of many more, including B.E.T. Omnibus Services Limited. Mr. Wills is a Member of Council of the B.E.T. Federation Limited, and a Member of Council of the Institute of Transport, and in September, 1945, was appointed Chairman of the Pubilc Transport Association (for two years he had been Chairman of the Omnibus Owners Association). In addition he was Chairman of the National Council for the Omnibus Industry in 1945 and serves on the Federation of British Industries, the London Chamber of Commerce, and many other trade and industrial organisations. The main business of the group of which he has become Managing Director is concerned with the 9,000 buses operated by associated companies, which, in 1945, ran 275 million miles and carried more than 1,500 million passengers. These provincial undertakings operate in co-ordination with the main-line railways, and the latter have substantial shareholdings in many of them.



Mr. J. S. Wills
Appointed Managing Director, British Electric Traction Co. Ltd.

Mr. M. G. Maycock, B.Sc. (Eng.), A.M.Inst.C.E., Assistant to Engineer (Maintenance), York, L.N.E.R., who, as recorded in our November 30, 1945, issue, has been appointed Assistant Engineer, Edinburgh, joined the Engineer's Department of the former North Eastern Railway at York in 1915. After serving in various sections of the head office he was appointed, in 1928, Chief Assistant in the District Engineer's Office, Bishop Auckland. He was transferred to a similar position at Newcastle in 1934. He was appointed to take charge of the Permanent Way Section of the Engineer's Office at York in 1937, and became Head of the New Works Section in the same office in 1938. Mr. Maycock was appointed Assistant District Engineer, Darlington, in 1939, and Assistant to Engineer (Maintenance), York, in 1943.



Mr. M. G. Maycock
Appointed Assistant Engineer, Edinburgh, L.N.E.R.

Sir Henry Chapman has rejoined the board of the Leopoldina Railway Co. Ltd.

Luncheon to Argentine United Nations Delegates

The Argentine delegates to the first General Assembly of the United Nations were entertained to luncheon at River Plate House, London, by the British-owned Argentine railways on January 17.

The late Mr. Dane Johnstone Sinclair, who was Chairman of British Insulated Cables (S.A.) Limited, and a Director of Automatic Telephone & Electric Co. Ltd., and British Insulated Cables Limited, left £43,547.

INLAND TRANSPORT COMMITTEE, I.L.O.

In our issue of January 18 we gave an account of the results of the meeting of the Inland Transport Committee of the International Labour Office, which was held in London last month. The United Kingdom delegation consisted of :—

Government : Mr. R. H. Tolerton, Ministry of War Transport ; Mr. H. M. Phillips, Ministry of Labour & National Service.

Employers : Mr. H. J. Comber, London Midland & Scottish Railway ; Mr. G. W. Quick Smith, National Road Transport Federation. *Substitutes* : Mr. Frank Gilbert, Southern Railway ; Mr. Roger W. Sewill, Road Haulage Association.

Workers : Mr. J. E. Binks, National Union of Railwaymen ; Mr. A. G. Clay, Transport & General Workers' Union.

Mr. Tolerton was elected Chairman of the Rail Committee, and Mr. Comber, Chairman of the Employers' Representatives on the Rail Committee. Mr. Quick Smith was elected Chairman of the Employees' Group and served on the Sub-Committee on Road Transport. Mr. F. Gilbert served on the Sub-Committee on other forms of transport.

C.P.R. P.R.O.

An announcement from the Canadian Pacific Railway at Montreal states that a new Department of Public Relations has been created, replacing the former General Publicity Office and Press Bureau, and taking in certain other activities. Mr. J. H. Campbell is Manager of the Department; Mr. J. Edgar March is Assistant Manager in charge of Press Relations; Mr. D. B. Wallace is Assistant Manager in charge of Special Services; and Mr. C. W. Stokes is Public Relations Officer for Europe. Branch officers are established at New York, London, Toronto, Ottawa, Winnipeg, Vancouver and St. John.

Mr. J. B. Thomas has been appointed Managing Director of Hadfields Limited.

INSTITUTE OF TRANSPORT

The following are among those who have passed examinations of the Institute of Transport for 1945 :—

Associate Membership, parts 1 *and* 2 : Messrs. T. W. David (Great Western Railway); J. R. Neilson, A. S. Turner (L.M.S.R.); L. R. Breadmore, R. W. Cookson, J. J. Eastcott, T. R. Thackray (L.N.E.R.); E. S. Hutchins (passed with honours) (Buenos Ayres Great Southern Railway); T. G. du Plessis, D. B. Garisch (South African Railways & Harbours).

Associate Membership, part 1 : Messrs. W. E. Prue (L.M.S.R.); J. H. Wood (L.P.T.B.); John Moffett (Irish Transport Company); G. L. Malherbe, R. T. van der Linden, D. C. Vaughan (South African Railways & Harbours).

Associate Membership, part 2 : Messrs. E. W. Godbehere (L.M.S.R.); Francis West (L.N.E.R.); Annamalai Chanmugarajah (Ceylon Government Railway); C. J. Greenway (Nigerian Railway); C. E. Lubbe, M. T. S. Vos (South African Railways & Harbours).

Associate Membership, qualified by thesis : Mr. E. E. Wenban (Nigerian Railway).

Associate Membership, supplementary subjects : Mr. F. H. Conway (L.P.T.B.).

Graduateship, parts 1 *and* 2 : Messrs. J. C. Button, W. H. Stebbings (passed with honours) (Great Western Railway) ; D. S. Cox, J. P. Houston, F. V. Pickstock, Reginald Westerman (L.M.S.R.) ; Robert Mutch, J. A. Sanderson, A. E. Taylor, J. C. Westoby (L.N.E.R.); B. R. Leigh (L.P.T.B.); J. C. Bailie (Great Northern Railway, Ireland); E. J. Hull (Belfast & CountyDown Railway); Annamalai Chanmugarajah, H. P. Liyanage, A. R. Silva (Ceylon Government Railway); M. Coetzee, C. P. Cornelius, D. W. de Vos, A. A. Fullalove, H. J. Jacobs, W. C. King, A. de L. Swart, E. H. Tootell (South African Railways & Harbours).

Graduateship, part 1 : Messrs. H. D. Buttle, C. T. Simpkins (Great Western Railway); J. K. Burge, Robert Campbell, T. C. Collins, F. Goodwin, Desmond Mee, Ronald Purves (L.M.S.R.); P. J. Smith (L.N.E.R.); K. W. McCubbin (L.P.T.B.); A. E. Cooper (Railway Clearing House); C. W. Leverett (Tanganyika Government Railways).

Graduateship, part 2 : Messrs. C. W. Townley (Great Western Railway); H. C. Chorn, P. J. Naudé, D. P. Rabie, W. J. Seymore, P. J. Steyn, A. B. B. Walters (South African Railways & Harbours).

The appointment is announced of Mr. F. G. Streatfield as Freight Agent, Canadian Pacific Railway, Liverpool. Mr. Streatfield has had 41 years' service with the company, and for the greater part of that time he has been with the Freight Department in Liverpool.

The Running Man's Ideal Locomotive

(*Concluded from page* 94)

plate type, not bar; the latter make for a very weak front end. Special attention should be paid to the design of the frames above the coupled horns, and immediately in front of and behind the cylinders. This is where cracks invariably occur in service after 10-15 years' work. If double thickness were used at these weak points, probably this would not occur.

Wheel rims should be of the triangular section now standard on the L.M.S.R., which never crack like the flat-rim ones. Fixing should be with Gibson ring—no studs or set screws.

Disc wheels for the bogie are to be abhorred; one can never see what is going on if a box gets warm. The G.W.R. "King" class of external bogie box has much to recommend it with Timken roller bearings, oil-lubricated.

Poppet valve gears, despite desirable features, sometimes give trouble with ball races, splineshafts, cambox seals, etc., which tend to keep the engine out of service for some time and require a specialised type of fitter. Great trouble has been experienced in Egypt with cracked Caprotti cylinders. The locomotive envisaged by the author must have Walschaerts gear with long valve travel—say, 7 in.

Piston valves should be of the Pennsylvania type with two rings to each head. The modern craze for a miniature slidebar and crosshead as a valve guide is costly and unnecessary. The simplest method is to use a circular bronze bush, carried in an extension to the valve-chest back cover. The valve rod is cottered to a circular plunger which works in this and is in turn connected to the combination lever by a pin.

No one mourns the demise of the tail rod, but care must be taken to ensure that its absence does not mean additional cylinder wear. The best piston is of cast steel with a bronze bullring cast round it; cast-iron pistons are inclined to crack at the root and sometimes even break through undetectable flaws in the metal. Three rings about ½ in. in width are desirable.

The single-slidebar crosshead should have renewable bronze side and top and bottom slipper liners. The latter have proved to be even more durable than whitemetal—also cheaper!

Side rods and connecting rods should be of as light a section as possible, but not of heat-treated steel, which usually cannot be straightened in a shed. Split side-rod brasses, though economical in theory, are more trouble than they are worth; plain solid-bronze bushes should be used. This applies also to small-end brasses. The big-end should be of the American floating bush type suitable for grease, but if oil is insisted on, the L.M.S.R. class "8F" solid-bronze bush with whitemetal insertions gives splendid service.

Coupled axleboxes, whether for grease or for oil lubrication, should comprise a steel box with a pressed-in bronze bush and bronze bearing liners on the faces working in the horns. The keeps should have a vertically sliding drop door on the inner side so that grease blocks (or, in the case of oil lubrication, cotton waste packing) may be quickly changed. On the whole, boxes without wedges are to be recommended. Wedges require a lot of upkeep, and broken wedgebolts are frequent in practice.

The author's policy is "away with all whitemetal and all oil, except to valves, pistons, and roller bearing boxes." Grease is the ideal lubricant. Lubrication to valves and pistons should be by a 4-feed Detroit sight-feed lubricator. Many cylinders are damaged by short-sighted economy in making the valve feeds serve for the cylinders as well. Mechanical lubricators are inclined to blow back and fill with condensed water when lubricating valves and pistons.

The author recommends one large, central sandbox on top of the boiler, as in standard U.S.A. practice, whereby the sand is kept dry and isolated instead of in four separate boxes, two over the injectors where the sand is continually damped by steam and two under the slidebars so that those who fill them scatter sand over the motion. Dry sanding by gravity can then be adopted.

The ashpan should have a plain flat flooring, and a plate distance-piece where it passes over the trailing axle, to keep the heat off and provide a current of cool air. A most undesirable ashpan is that in which the trailing coupled axle is surrounded on three sides by the pan, resulting in innumerable hot boxes. The grate should be of the rocking type, and the ashpan of the hopper self-cleaning pattern.

The tender should have the coal bunker set about 1 ft. in from the tank sides. It should be of the double-bogie type, carrying 6,000 gal. of water and 12 tons of coal.

Water tank and coal bunker should be all-welded; lack of rivets facilitates cleaning. Timken all-enclosed roller-bearing axleboxes are suggested, using oil for lubrication.

How much time is lost due to drivers misjudging the water column? On the Persian State Railways, and in Italy, instead of a circular water hole at the rear of the tender, longitudinal side doors extend the whole length of both sides of the tender and a latitude of some 25 ft. is thereby allowed for stopping at the column.

Late Running on the Southern Railway

The statement below is reprinted from the January 20 issue of *The Sunday Express*, which had asked the railway companies for the actual running schedules of their chief trains during one complete week, excluding Sunday. The table is referred to in an editorial note on page 86.

	Minutes late on January						
	11	12	14	15	16	17	18
Waterloo to Exeter, 10.50 a.m.	5	0	5	6	21	5	20
Waterloo to Exeter, 12.50 p.m.	13	29	19	9	12	43	28

[On January 12 17 minutes were lost at Salisbury through detaching a vehicle with hot axle box. Started late on January 17 owing to shortage of rolling stock. Points failure at Salisbury on January 18.]

	Minutes late on January						
	11	12	14	15	16	17	18
Waterloo to Weymouth, 8.30 a.m.	3	1	0	3	3	7	14
Waterloo to Bournemouth, 10.30 a.m. ...	11	0	4	19	22	2	12

[Started late on January 16 because of shortage of rolling stock. Many coaches are being repaired or refitted.]

	Minutes late on January						
	11	12	14	15	16	17	18
Charing Cross to Deal, 9.15 a.m.	15	6	0	1	6	0	0

[Engine trouble on January 11.]

	Minutes late on January						
	11	12	14	15	16	17	18
Charing Cross to Deal, 1.15 p.m.	0	16	14	11	12	19	5
Victoria to Ramsgate, 9.35 a.m.	0	0	5	21	18	2	0

[Engine trouble on January 15 and 16.]

	Minutes late on January						
	11	12	14	15	16	17	18
Victoria to Ramsgate, 12.35 p.m.	0	—	6	20	25	22	2

[Engine lost time on January 16. Engine trouble on January 17. Engineering work on both dates. Does not run on Saturdays.]

	Minutes late on January						
	11	12	14	15	16	17	18
Exeter to Waterloo, 7.30 a.m.	0	0	13	0	1	9	0
Exeter to Waterloo, 10.37 a.m.	1	1	0	17	22	30	25

[Engine trouble on January 16, 17 and 18, plus heavy Services traffic on January 16.]

	Minutes late on January						
	11	12	14	15	16	17	18
Bournemouth to Waterloo, 10.12 a.m. ...	0	0	11	2	1	4	13
Bournemouth to Waterloo, 2.20 p.m. ...	13	35	7	4	0	11	27

[Engine trouble caused loss of right of way on heavily loaded tracks on January 12. Engine trouble on January 18.]

	Minutes late on January						
	11	12	14	15	16	17	18
Deal to Charing Cross, 8.44 a.m.	32	19	6	13	26	24	23

[On January 11, 16 and 17 there was engine trouble. On January 18 heavy Services traffic and kit loading held up train.]

	Minutes late on January						
	11	12	14	15	16	17	18
Deal to Charing Cross, 4.24 p.m.	24	17	2	16	10	1	8

[Engine trouble and delay in attaching coaches *en route* due to inexperienced staff on January 11 and 12.]

	Minutes late on January						
	11	12	14	15	16	17	18
Ramsgate to Victoria, 8.35 a.m.	11	9	2	4	2	22	1

[Engine trouble on January 17.]

	Minutes late on January						
	11	12	14	15	16	17	18
Ramsgate to Victoria, 3.15 p.m.	26	22	5	11	8	3	0

[Specially stopped on January 11 to relight tail lamp. Engine trouble on January 11 and 12.]

In a general explanation of its difficulties the Southern Railway states: Passenger traffic to the Continent is much heavier than before the war, with many leave and repatriation trains. Long-distance passenger traffic is up 484·7 per cent. Overcrowded business trains cause delays. We need experienced staff back from the Forces. Our engines are in poor condition; and poor quality coal and bomb damage also affect timekeeping.

Staff & Labour

Civil Service Rates of Pay

The Treasury announced on January 3 the conclusion of agreements under which the war bonus payable to non-industrial Civil Servants is consolidated with basic pay. The present system of pay plus bonus is replaced, with effect from November 1 last, by payment of inclusive amounts represented by the sum of basic pay plus "consolidation additions." In fixing these additions, account has been taken of movements which have occurred in the general level of remuneration outside the Civil Service since the bonus was last revised in 1944. New consolidated scales of pay based on the new inclusive payments will be drawn up and put into effect as soon as possible. The agreements provide for the following changes :—

Weekly-Paid Staff

Age	Bonus payable before November 1, 1945, weekly	Consolidation addition weekly
	s. d.	s. d.
Under 16	6 6	12 0
16	8 0	12 0
17	9 0	15 0
18	12 0	18 0
19	13 6	21 0
20	Men, 16s. Women, 14s. 6d.	Men, 24s. Women, 22s. 6d.
21 and over	Men, 23s. Women, 18s. 6d.	Men, 30s. Women, 24s.

Salaried Staff

Before November 1, 1945, war bonus was payable to all adult, salaried staff with basic salaries not exceeding £1,500 a year, at the rates of £60 a year for men and £48 a year for women. Subject to special arrangements to avoid anomalies at those points in the basic salary scales where the rates of addition change, the consolidation additions for adults will be as follows :—

Men		Women	
Basic salary	Addition	Basic salary	Addition
£	£	£	£
Below 400	78	Below 320	63
400-849	90	320-679	72
850-1,099	105	680-924	84
1,100-1,500	120	925-1,325	96

The additions fall on a sliding scale above £1,500 (men) and £1,325 (women) and cease altogether at £1,700 (men) and £1,550 approximate (women).

Agricultural Wages

The Agricultural Wages Board, on January 2, rejected the claim of the unions for an increase in the minimum wage for agricultural workers from £3 10s. to £4 10s. a week, but agreed on the following improvements :—

A reduction of the working hours for which the minimum wage is payable from an average of 50 hours to 48 hours summer and winter.

An increase in weekly wage for women workers, 18 years of age and over, from 48s. to 50s. a week.

An increase in the overtime rates to time-and-a-quarter on weekdays and to time-and-a-half at weekends.

An increase in the number of paid holidays from four to six days.

The decisions of the Board will be remitted to the County Agricultural Committees for their consideration, and the Wages Board will meet again on February 14 to consider any representations the committees may make.

A Delayed Leave Train

The following was published under "Points from Letters" in *The Times* of January 17 :—

Delay and discomfort in leave trains in North-West Germany is to a large extent understandable; it seems a shocking commentary, however, on the efficiency of English railways that the following incident could happen: On January 7 a leave boat at Hull disembarked some hundreds of troops from the B.A.O.R., many of whom had been travelling since the previous Friday. The special troop train left Hull promptly at the scheduled time of 10.25 a.m. Inquirers at Kings Cross station were told that the scheduled time of arrival there was 3.12 p.m. In fact the train arrived at 7.30 p.m., having taken just over nine hours for a journey of 196 miles, the final part of the journey from Potters Bar to Kings Cross having been made in an hour and a half. It is understood that there were no difficult weather conditions and no engine trouble, and it looks very much as if this was nobody's train that was held up in favour of ordinary traffic. A considerable number of the unfortunate travellers thereon naturally missed their connections to distant parts of the country.—MR. R. W. JONES, 53, Theadneedle Street, E.C.2.

In *The Times* of January 21 the following letter from Sir Charles Newton was published :—

Sir,—In your issue of to-day Mr. R. W. Jones complained of the late running of the 10.25 a.m. leave train from Hull to Kings Cross on January 7. He stated that there was no engine trouble and appeared to think that the train was side-tracked for ordinary traffic.

The facts are as follows: The train was hauled by one of our modern "V2" engines in excellent condition and driven by a first-class driver. A tar-wagon on fire on a preceding goods train, speed reductions for permanent-way maintenance, and signal checks accounted for but one hour of the four hours lost in running. The remaining three hours were entirely attributable to bad steaming conditions due to the use of inferior coal.

At Peterborough an attempt was made to clean the fire, which had become clogged, but from that point onwards the position steadily grew worse, and by the time the train—now completely out of course—was approaching Kings Cross, it was encountering peak hour traffic in the down direction, which caused further delay. Upon arrival the engine was specially examined and found to be in excellent mechanical condition, but the crew had suffered from fumes in their efforts to keep the fire going properly.

One could hardly describe this incident, as Mr. Jones does, as "a shocking commentary on the efficiency of English railways." I should describe it as a commentary on a gallant effort by L.N.E.R. enginemen to overcome difficulties the use of inferior coal is causing daily. I am afraid that it is not generally appreciated that, like the housewife, the railways cannot yet pick and choose their coal as in the days before the war, when only the best was good enough for the engines that hauled L.N.E.R. main-line and suburban passenger trains.

Yours faithfully,

C. H. NEWTON,

Chief General Manager

London & North Eastern Railway,
Dorset Square, N.W.1.
January 17

G.W.R. Plans for Developments in South Wales

Lord Portal on a big programme of railway and dock improvements—Future of coal exports

As mentioned in last week's issue, the Rt. Hon. Viscount Portal, P.C., D.S.O., M.V.O., Chairman of the Great Western Railway Company, accompanied by Sir James Milne, K.C.V.O., C.S.I., Mr. K. W. C. Grand, Mr. Gilbert Matthews, Mr. F. W. Lampitt, Mr. G. E. Orton, and the company's local officers, visited Swansea and Cardiff on January 15 for the purpose of outlining the company's plans for developments in South Wales and Monmouthshire.

At a luncheon at Swansea and a dinner at Cardiff given by the company to civic authorities, trading associations, local industrialists, and members of Parliament, Lord Portal pointed out that since the amalgamations under the Railways Act, 1921, the interests of the Great Western Railway Company had become very closely interlinked with those of South Wales. Before the war, the company had earned 25 per cent. of its gross traffic receipts from the area, but had spent in salaries and wages, rates, orders for stores, etc., an even greater sum, and any increase in the company's general prosperity should result in increased orders for stores being placed in South Wales.

After referring to the vast improvements effected by the company in the South Wales railways and docks during the last 20 years at a cost of several million pounds, Lord Portal said he was concerned not to talk about past achievements, but to outline future plans.

Deferred Maintenance

The company's first task would be to bring its lines and equipment up to their pre-war standard. As to make good the arrears of repairs and renewals which have accumulated during the war and make good war damage would cost about £20 millions, the task was one of some magnitude, as the work had to be superimposed on ordinary maintenance work on which normal expenditure at present values is £14½ millions a year. The G.W.R. is at present carrying 40 per cent. more passengers than pre-war but as the number of locomotives and carriages under and awaiting repair was greatly in excess of pre-war because of shortage of labour and materials, train mileage had had to be restricted to 80 per cent. of normal.

Lord Portal then indicated that, although it would be necessary for some time to continue to impose temporary restrictions of speed over many sections of the line to enable urgent permanent way maintenance work to be carried out, it was the company's intention to provide, as soon as circumstances permitted, extra trains and accelerated express services. Taking the longer view, the company intended to provide more and faster passenger and freight services than in the pre-war period and passenger coaches considerably in advance of pre-war standards.

Referring to the difficulties experienced by the company in obtaining supplies of locomotive coal, he mentioned that the company had been experimenting with the use of oil-burning heavy-freight locomotives. The result of this experiment had exceeded the company's anticipations, but although it had not yet had sufficient experience to enable any definite conclusion to be reached as to the relative advantages of using oil as compared with coal, the company proposed to adapt some heavy passenger and tank engines to burn oil. The possibility of a gas-turbine engine was also being explored.

Attracting New Industries

Turning to the question of the attraction of new industries to South Wales, Lord Portal pointed out that the company had always taken a great interest in this matter. In 1936 it had initiated the formation of the South Wales Trade Recovery & Expansion Committee, and he was personally associated with the matter as he was then Chief Industrial Adviser to the Government, Chairman of the Special Area Reconstruction Association, Chairman of the Treasury Committee, and one of the Nuffield Trustees. These bodies were instrumental in securing the establishment of 55 industries in South Wales. This interest had been continued by the company and during last year 375 enquiries for new factory sites and premises in the area had been dealt with.

He then explained that as far as future developments in the area are concerned, it was necessary for the company, in addition to restoring its lines, to make provision for the additional transport facilities required in connection with the many new industries now being established in South Wales. A number of very extensive facilities would be necessary, notably in connection with the new hot strip mill at Port Talbot and the cold reduction plants at Swansea and Llanelly.

Lord Portal with G.W.R. officers and local representatives during the visit to Cardiff on January 15

Seated: (left to right) Sir James Milne; the Lord Mayor of Cardiff; Lord Portal; Sir Gerald Bruce; Sir Robert Webber.
Standing: (left to right) Mr. J. Arnold (High Sheriff of Glamorgan); Sir W. Reardon-Smith; Mr. K. W. C. Grand; the Mayor of Newport; Captain Despard, R.N.; the Mayor of Barry; Sir Llewellyn Soulsby; Mr. Peter Freeman, M.P.; Sir Frederick Rees

Coal Export Trade

Conflicting views existed with regard to the future of the South Wales coal export trade, but the company had decided to retain all its existing facilities for the present and to make provision for the development of the import and export traffic on which the country so largely depended.

One of the most urgent needs at South Wales at present was the provision of dry docking facilities capable of accommodating the large types of cargo vessels now being constructed and, after considering the views of the shipowners' and ship repairers' associations the company had decided as a first step to widen the existing entrance and centre caisson of the G.W.R. Commercial Dry Dock at Barry and to consider the desirability of providing repair facilities at Cardiff Docks at a future date in the light of further experience. The company also proposed to allocate berths at each port solely for ship repair work and to provide oil separating barges and possibly sea water ballasting facilities at the major ports.

Further, to assist the development of the export trade, Lord Portal said the company proposed:—

To provide new, modern and fully equipped transit sheds at Cardiff, Newport, and Port Talbot;

To provide additional dock appliances at Cardiff and Barry;

To deepen and widen the junction passage between the North and South Dock at Newport;

To provide new slipways at Newport for repairing and housing lock gates to minimise delays when repairs are necessary.

To provide extensive new sidings on the foreshore at Cardiff to enable mining and sawn timber to be stacked.

To replace the steam-driven impounding and hydraulic-pressure pumps at Cardiff Docks by electrically-driven pumps.

To provide a new hydraulic power station and electrically-driven impounding pumps at Port Talbot.

To provide new electrically-driven impounding pumps at Newport and modernise the pumping plants at the South and North End Power Houses.

To modernise the crane equipment at the Queen Alexandra and Roath Docks, Cardiff.

To provide new and improved road access to Swansea Docks.

New Railway Hotels

On the railway side, Lord Portal said the company proposed to complete as soon as possible the doubling of the Porthcawl Branch and the provision of a new west curve to enable fast direct services

to be run. It was also intended to make extensive developments at Swansea Station, and to remodel Whitland Station and locomotive depot and Neath Station. Further, the company had expressed willingness to provide new hotels at Cardiff and Swansea, the former to have 200 bedrooms, and negotiations were in progress with the corporations concerned.

He then stressed the importance of attracting additional shipping lines to South Wales and urged manufacturers to get together and consider to what extent they could combine their exports so as to ensure nucleus cargoes for regular shipments to particular foreign markets as this would enable efforts to be concentrated on securing the balance of the cargoes from the Midlands.

At Swansea, Lord Portal proposed the toast of "The Towns of Swansea and Port Talbot," to which the Mayor of Swansea and the Mayor of Port Talbot responded. The toast of "The Great Western Railway" was proposed by Mr. D. R. Grenfell, M.P., J.P., and was replied to by Sir W. Reardon-Smith, one of the Great Western Company's directors.

At Cardiff, Lord Portal proposed the toast of "The Principality" to which the Rt. Hon. The Lord Mayor of Cardiff and Sir Robert Webber, D.L., J.P., responded. The toast of "The Great Western Railway Company" was proposed by Colonel Sir Gerald Bruce, K.C.B., C.M.G., D.S.O., T.D., and replied to by Lord Portal.

Civil Engineering on the Southern Railway

In pre-war years an average annual expenditure on maintenance by the Civil Engineering Department of the Southern Railway was £3½ millions. A review of the varied types of engineering work which contribute to this total was given by Mr. V. A. M. Robertson, C.B.E., M.C., M.Inst.C.E., Chief Engineer, Southern Railway, in a paper to the Southern Railway Lecture & Debating Society on January 10. Sir Francis Dent, a Director of the company, presided.

After explaining the organisation of the Civil Engineering Department, and its relations with other departments of the railway, Mr. Robertson dealt with work on the permanent way. To keep the tracks in proper repair the company renewed 160 miles completely every year; the total value of the rails, sleepers, chairs and other track components used amounted to over £1 million. The life of rails differed widely in various parts of the system, depending on curvature, braking, and atmospheric conditions as well as on volume of traffic carried. Quoting representative figures, Mr. Robertson showed that the average life of rails between Cannon Street and London Bridge was three years; and from Woking to Bournemouth and Exeter, 40 years. The average life in heavily-worked steam tunnels was four years. Relaying of plain road was carried out by hoisting pre-assembled sections of track into position with cranes, a procedure which was illustrated with a short film.

Mr. Robertson emphasised the necessity of regular and adequate inspection of bridges to ensure that small troubles were remedied at once. In pre-war years the company spent £12,000 a year on bridge inspection. Metal bridges in the London area required repainting at intervals not exceeding six years. In country areas the intervals should not exceed 10 to 12 years. Bridges subject to action by the sea or on a coastal section needed repainting every two years.

Mr. Robertson showed several slides illustrating signalling on the Southern Railway, and said that but for the war the mileage of colour-light signalling would have been very much greater than it was; all the company's London terminal stations were provided with colour-light signals and power-operated signal boxes, as were several other important centres.

Lighting, heating, and water supply were also the province of the Civil Engineering Department. On the lighting side, the department had to maintain everything from oil lamps to electrical high-tension tubular lighting. Water supplies were obtained from many sources outside the public mains, such as deep bore holes, wells with hand or automatic electric pumping, or surface reservoirs and catchment areas. Special attention was paid to the analysis of water samples to ensure freedom from bacterial impurity. Efficient heating and ventilation were tending to come more into the picture as increasing attention was paid to amenities for the staff. An economy of only 5 per cent. on the company's annual bill for electricity, gas, and water would effect a saving of £10,000 every year.

In dealing with stations, Mr. Robertson paid special attention to amenities for passengers, and said he had arranged for the company's architect to have special studies made of such simple things as train indicators, direction signs, planning and design of booking offices and ticket windows, cloak rooms and left luggage offices, refreshment rooms and lavatories.

G.W.R. Ambulance Work

During the last year of war ambulance work continued to be steadily maintained throughout the G.W.R. system; with the return to more normal conditions it is hoped to secure additional recruits, and to bring back into the movement those who ceased to become active members through war service. The number of candidates who passed examinations under the St. John Ambulance Association was 4,974 and of these 102 were recruits to the movement.

The Athlone Bowl, awarded to the division gaining the highest percentage of new members in proportion to the total number of staff employed, has been won by the Central Wales Division with a percentage of 0.68. The runners-up are the Bristol "A" Division with a percentage of 0.25.

A total of 451 gold proficiency awards was gained during the year.

RETURN OF L.M.S.R. VEHICLES FROM OVERSEAS.—The L.M.S.R. provided for use overseas 18 ambulance trains consisting of 259 converted dining and sleeping cars and corridor coaches. These vehicles are now being returned; 48 are passing through the L.M.S.R. works for reconversion before return to traffic. The L.M.S.R. also provided 215 vehicles for use in ambulance trains in this country. Of these, 165 have been released. The L.M.S.R. also provided 75 coaches for the movement of troops on the Continent and later a further 42 coaches for the conveyance of leave personnel from the Middle East. The 75 coaches are still overseas but the 42 coaches have been returned.

William Whitelaw: An Appreciation

The following appreciation of Mr. William Whitelaw, Chairman of the London & North Eastern Railway Company, from 1923 to 1938, whose death is recorded on page 99, and who is the subject of an editorial article on page 87, has been received from a Scottish reader:—

It is no secret that Mr. William Whitelaw hesitated a good deal before he consented to become the first Chairman of the London & North Eastern Railway. When arrangements for "grouping" the railways were being settled in 1922, he was one of the leading men in Scotland and had his hands full of both public and private business. A move to London meant that he would have to give up some of his Scottish interests and for many months of the year would see little of his historic home, Hatton House, which has stood for over three centuries in an unspoiled stretch of Midlothian. But once he had made up his mind to go south, Mr. Whitelaw threw himself wholeheartedly into the task of organising the arrangements for carrying on the business of the amalgamated company.

In drawing up a constitution for the L.N.E.R. he sought to develop the good characteristics of all the constituent companies. That object, he felt, could be attained by adopting an area organisation and delegating responsibility for traffic matters and a variety of other subjects to three divisional general managers. He was also in favour of leaving local officers to act on their own initiative as far as practicable and liked to join them on tours of inspection round their districts.

Mr. Whitelaw might almost be described as a railway enthusiast. No day on an "officers' special" seemed ever to be too long or too tiring for him. He enjoyed travelling by ordinary train too and nothing would induce him to make a long journey by motor car. On one occasion he travelled from Edinburgh by the "Flying Scotsman" to attend a concert given by the L.N.E.R. Musical Society because he feared that the staff would be disappointed if he were absent. On arrival at Kings Cross he said that, far from the trip having bored him, it had been most restful.

Mr. Whitelaw was keenly interested in Sir Nigel Gresley's designs for new trains and locomotives. He was fond of going through the company's mechanical engineering workshops, chatting cheerily on the way with all and sundry about their work, but he would also turn out in all weathers to watch any special piece of permanent way relaying, bridge construction or dock equipment which the civil engineers had in hand.

During the 15 years of his Chairmanship Mr. Whitelaw's tall, commanding figure became familiar to L.N.E.R. men of all grades up and down the line. In his dealings with them his friendly approach and frank mode of speech won their confidence. It was with genuine regret that the staff in England heard of his resignation in 1938. The staff in Scotland were more fortunate, because Mr. Whitelaw remained a member of the Scottish local board and so kept in touch with railway affairs across the Border almost to the end. Now he is lost to Scotland and to many railwaymen Edinburgh without him will hardly seem to be the same place as of old.

Notes and News

L.N.E.R. Annual Meeting.—The ordinary general meeting of the London & North Eastern Railway Company will be held at Grosvenor House, Park Lane, W.1, at 2 p.m. on Friday, March 8.

South African Railway Earnings.—Railway earnings in South Africa for the period December 9, 1945, to January 5, 1946, amounted to £3,946,836, compared with £3,873,105 in the previous corresponding period.

Traffic and Despatch Manager Required.—A manufacturing company in West London requires the services of a traffic and despatch manager, mainly railway and road transport. See Official Notices on page 107.

Great Western Railway Stock Balances.—On Monday, January 28, balances will be struck in respect of the consolidated guaranteed stock, consolidated preference stock, redeemable preference stock, and consolidated ordinary stock, in connection with dividend payments for the half-year ended December 31, 1945.

London & North-Eastern Railway Company.—The directors have fixed January 31 at the close of business as the date for striking the balances of the guaranteed, preference, and ordinary stocks of the company. Final dividends for the year to December 31, 1945, will be payable only to stockholders whose names are registered by that date. See official notices on page 107.

Presentation to Mr. C. Francis.—The esteem of his fellow officers of the Southern Railway was shown at a presentation made on January 11 to Mr. C. Francis, C.B.E., who recently retired from the position of Stores Superintendent. At a gathering in the General Manager's Office at Waterloo he was presented with a parting gift from them as a token of their good wishes. Mr. John Elliot, Deputy General Manager, made the presentation on behalf of Sir Eustace Missenden, General Manager, who could not attend on account of illness, and many of the principal officers of the company were present (see accompanying illustration).

Shell Petroleum Co. Ltd.—The name of the Asiatic Petroleum Co. Ltd. has been changed to Shell Petroleum Co. Ltd.

Road Accidents in November, 1945.—The return issued by the Ministry of War Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of November last shows 481 deaths (compared with 507 in November, 1944), 3,027 seriously injured (compared with 2,747 in November, 1944), and 9,010 slightly injured (compared with 7,521 in November, 1944).

Great Western Railway Magazine.—The January issue of the *Great Western Railway Magazine* has a new cover and title page of more modern design than its predecessors. The monogram of the company, which formerly was featured at the top of the cover, is now much reduced in size, and is placed at the bottom under the half-tone illustration. The general effect of the changes is to give a lighter and more pleasing appearance to the magazine which, as usual, contains a great deal of matter relating to the company of interest to the staff, and, indeed, to a wider circle of readers.

"Good Heating for Every Home" Exhibition.—An exhibition of solid smokeless fuel appliances for domestic heating services, with the above title, is planned to be held during March next at the Horticultural Hall, Vincent Square, London, S.W.1. It is being organised by the Solid Smokeless Fuels Federation, which comprises the National Federation of Gas Coke Associations, the British Coking Industry Association and the South Wales Anthracite & Dry Coal Committee. The exhibition is being designed by Mr. Ian Jeffcott, F.R.S.A., L.R.I.B.A. Although it is intended primarily for housing authorities, architects, builders, heating engineers and all dealing with rehousing, every person concerned with solid fuel and its utilisation, and the general public, will be welcome.

Vacancies in Uruguay.—A chief of traction, shop trained, with footplate and running shed experience, and a junior civil engineer, railway trained, are required for railway service in Uruguay. See Official Notices on page 107.

Rohilkund & Kumaon Railway Co. Ltd.—A general meeting of the members of the Rohilkund & Kumaon Railway Co. Ltd. will be held at Winchester House (Hall No. 16), Old Broad Street, London, E.C.2, on January 24 at 3 p.m., for the purpose of having an account laid before them, and to receive the Liquidators' report showing how the winding-up of the company has been conducted, and of hearing any explanations which may be given by the Liquidators, also of determining by extraordinary resolution the manner in which the books, accounts and documents of the company, and of the Liquidators thereof, shall be disposed of.

Export of Hand Tools.—Subsequent to recent amendments to the export control list, hand tools are no longer subject to export licensing. Accordingly, the Hand Tools Export Section of the Industries & Manufactures (Engineering) Department of the Board of Trade at Woodthorne, Tettenhall, Wolverhampton, which has dealt with matters relating to the export of hand tools, has been disbanded. In future general inquiries and correspondence concerned with exports of hand tools should be addressed to the Ministry of Supply & Aircraft Production, Engi-

Presentation to Mr. C. Francis, Retired Stores Superintendent, Southern Railway

Mr. John Elliot, Deputy General Manager, Southern Railway, making a presentation to Mr. C. Francis, who recently retired from the position of Stores Superintendent (see accompanying paragraph)

Left to right : Mr. C. M. Cock (Chief Electrical Engineer); Mr. A. B. MacLeod (Stores Superintendent) ; Mr. R. M. T. Richards (Traffic Manager); Mr. C. Gribble (Deputy Chief Civil Engineer, and Engineer for New Works & Bridges); Mr. V. A. M. Robertson (Chief Civil Engineer); Mr. H. A. Short (Deputy Traffic Manager); Mr. S. E. Clark (Deputy Secretary); Mr. John Elliot; Mr. A. E. Hammett (Commercial Superintendent); Mr. O. W. Cromwell (Chief Officer for Labour & Establishment); Mr. H. L. Smedley (Solicitor); Mr. C. Francis; Brigadier L. F. S. Dawes (Secretary); Mr. J. H. Laundy (Audit Accountant)

neering Industries Division, I.C. House, Millbank, London, S.W.1.

Mexican Southern Railway Limited.—At an extraordinary general meeting of the Mexican Southern Railway Limited, on December 20, 1945, a resolution was passed that the company should be wound up voluntarily, and that Mr. Charles Maitland Duncan, Chartered Accountant, of 112-114, Cannon Street, and Mr. Albert Tawley-Young, Chartered Secretary, of 163, Winchester House, Old Broad Street, should be appointed Liquidators.

Road Haulage Nationalisation.—The Road Haulage Association and British Road Federation have issued a manifesto presenting arguments against the proposed nationalisation of the road haulage industry. It states that there is no practical case for the nationalisation of an industry which is not a monopoly, is efficiently conducted, has excellent relations with its labour, gives its customers a square deal, is already largely controlled by Government regulations, and does not require a public subsidy for further development. Stating that the Government's case rests largely on the alleged "efficiency" with which the Ministry of War Transport's Road Haulage Organisation operated during the war, it declares that the real purpose of the Organisation was to use the vehicles and men as little as possible. This end was achieved by overwhelming the railways with all sorts of traffic. The standard of road haulage operation under Government control did not begin to compete with the haulier-owned organisations it took over, either in general efficiency, control, speedy movement, return loads, or flexibility.

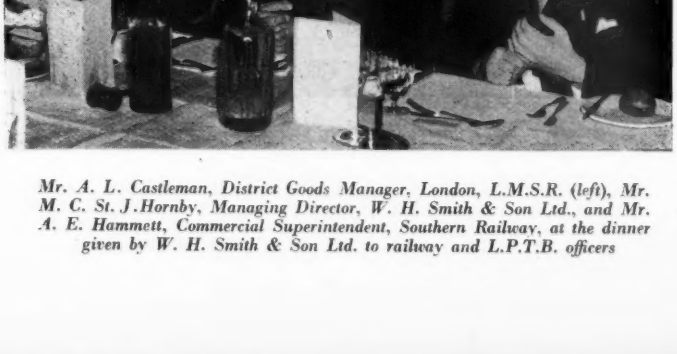
W. H. Smith & Son Dinner to Railway Officers.—At the Savoy Hotel, London, on January 9, W. H. Smith & Son Ltd. gave an informal dinner to officers of the four main-line railways and the L.P.T.B., so that the firm could meet some of the railway officers who with their staffs have done so much to keep the wheels of wholesale and retail distribution turning amid the pre-occupations of war. Mr. M. C. St. J. Hornby, Managing Director of W. H. Smith & Son Ltd., paid tribute to those officers and their staffs on their almost incredible war achievements, and wished them well in their post-war work of re-organisation. Those present included:—

Mr. H. J. Hoskins, District Goods Manager, London, Great Western Railway; Messrs. R. Bagwell, District Passenger Manager, London, and A. L. Castleman, District Goods Manager, London, L.M.S.R.; Messrs. W. E. Blakey, London City Manager, W. E. Green, District Superintendent, King's Cross, L. J. Moorcock, District Passenger Manager, London, G. F. Fiennes, District Superintendent, Stratford, and G. Sutcliffe, District Superintendent, Cambridge, L.N.E.R.; C. J. Latham, lately London Central Divisional Superintendent, J. Bridger, London Central Divisional Superintendent, P. Nunn, London East Divisional Superintendent, C. F. de Pury, London West Divisional Superintendent A. E. Hammett, Commercial Superintendent, and E. E. Young, London District Freight Superintendent, Southern Railway; Messrs. C. E. Cadwallader, Executive Assistant to Estate Agent & Rating Surveyor, and A. Webb, Outdoor Superintendent (Railways), L.P.T.B.

Costa Rica Railway Co. Ltd.—Mr. H. C. Drayton, Chairman of the Costa Rica Railway Co. Ltd., in his speech at the annual meeting held in London on December 19, 1945, stated that the receipts for the past year showed a decrease of £14,000, which was mainly due to the smaller amount of money received from the operating company, namely, the Northern Company. The fall in profits was due to increased expenses caused by a bad washout and cliff subsidence and higher working costs. Investments were down by £48,400 caused by the necessary realisations to finance the operating company to purchase in America additional wagons required to deal with increased traffic now coming to the line.

L.M.S.R. Train Service Alterations.—New express trains are announced by the L.M.S.R. to operate from February 1 between Sheffield and Manchester; these will run at 8.35 a.m. from Sheffield, calling only at Dore & Totley and Chinley and reaching Manchester Central at 9.55 a.m.; and from Manchester at 3 p.m., calling at the same two stations and reaching Sheffield at 4.16 p.m. There will also be new stopping trains at 8.38 a.m. from Chinley to Sheffield and at 10.40 a.m. from Sheffield to Chinley, in connection at Chinley with trains to and from Manchester. The 6.20 p.m. from Crewe to Carlisle will omit certain stops, and arrive at Carlisle 17 min. earlier, at 10.40 p.m.; a connecting train will leave Lancaster at 9.15 a.m. for all stations to Windermere, arriving at 10.36 p.m. New trains will run at 5.45 p.m. from Ayr to Glasgow, calling at principal stations and arriving at 7.1 p.m.; a return train will leave Glasgow St. Enoch at 9 p.m., reaching Ayr at 10.17 p.m. The new 1.30 p.m. luncheon car service from London to Liverpool is non-stop between Euston and Lime Street in 4 hr. 5 min. There have been considerable modifications in detail of the new

W. H. Smith & Son Entertains Railway Officers



Mr. A. L. Castleman, District Goods Manager, London, L.M.S.R. (left), Mr. M. C. St. J. Hornby, Managing Director, W. H. Smith & Son Ltd., and Mr. A. E. Hammett, Commercial Superintendent, Southern Railway, at the dinner given by W. H. Smith & Son Ltd. to railway and L.P.T.B. officers

British and Irish Railway Stocks and Shares

Stocks	Highest 1945	Lowest 1945	Prices Jan. 22, 1946	Prices Rise/Fall
G.W.R.				
Cons. Ord.	60⅜	47½	55	—
5% Con. Pref. ...	124½	104½	114½	+ 1
5% Red. Pref. (1950)	107⅜	101½	103	—
5% Rt. Charge ...	137½	120	124½	+ 1
5% Cons. Guar. ...	135½	117	121½	+ 2
4% Deb.	118	106	111½	+ 3½
4½% Deb.	119½	108	109½	+ 2
4½% Deb.	124½	111½	114	—
5% Deb.	138	124	126	+ 1
2½% Deb.	83	74½	81½	—
L.M.S.R.				
Ord.	33	23½	28	—
4% Pref. (1923) ...	65	50	56	—
4% Pref.	80⅜	69½	78	+ 1
5% Red. Pref. (1955)	106½	99½	101½	+ 1
4% Guar.	106½	97	103	+ 2
4% Deb.	110½	102	107½	+ 2½
5% Red. Deb. (1952)	110½	103½	106	+ ½
L.N.E.R.				
5% Pref. Ord. ...	8½	5½	6½	—
Def. Ord.	4½	2⅜	3⅜	—
4% First Pref. ...	62½	49½	55	—
4% Second Pref. ...	33½	24½	28⅜	— ¼
5% Red. Pref. (1955)	103	96	98	+ 1
4% First Guar. ...	104½	95	100½	+ 1½
4% Second Guar. ...	97	89½	93	+ ¼
3% Deb.	91⅜	82½	90½	+ 2
4% Deb.	109⅜	101	106½	+ 2
5% Red. Deb. (1947)	103½	100	101	—
4½% Sinking Fund Red. Deb.	106⅜	103	103½	—
SOUTHERN				
Pref. Ord.	79½	63	72	—
Def. Ord.	27	20⅛	23	— ¼
5% Pref.	124½	104	114	+ 1½
5% Red. Pref. (1964)	117	107	108½	+ 1
5% Guar. Pref. ...	135⅜	117	120½	+ 1
5% Red. Guar. Pref. (1957)	117	106½	108½	+ 1
4% Deb.	117	104½	111½	+ 3½
5% Deb.	137	124	126½	+ 1
4% Red. Deb (1962-67)	112	104½	106½	+ 2
4% Red. Deb. (1970-80)	113½	104	106½	+ 2
FORTH BRIDGE				
4% Deb.	106	103	103	—
4% Guar.	106	101	103	+ 1
L.P.T.B.				
4½ "A"	125	117	122½	+ 2
5% "A"	135	127	132½	+ 2
3% Guar. (1967-72)	100	97½	100	+ 1
5% "B"	125½	115	117½	—
"C"	70	58	63	—
MERSEY				
Ord.	37	31½	32	—
3% Perp. Pref. ...	72½	68½	70	—
4% Perp. Deb. ...	104½	104	103	—
3% Perp. Deb. ...	84	78½	81	—
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	34	24½	41	— 1½
Pref.	52½	42⅜	63	— ⅜
Guar.	80	68	88	+ 1
Deb.	97½	87½	97½	—
IRISH TRANSPORT				
Common	—	—	88⅜	— 1
3% Deb.	—	—	100⅜	+ ⅛

* Latest available quotation

OFFICIAL NOTICES

London and North Eastern Railway Company

NOTICE is hereby given that the Directors have fixed January 31 at the close of business as the date for striking the balance of the Company's Guaranteed, Preference and Ordinary Stocks. Final Dividends declared for the year ended December 31, 1945, will be payable only to the Stockholders whose names are registered in the books of the Company on the date so fixed.

Deeds of Transfer should, therefore, be lodged with the Registrar of the Company at Hamilton Buildings, Liverpool Street Station, London, E.C.2, before 5.0 p.m. on January 31.

By Order:
W. H. JOHNSON,
Secretary of the Company.

Marylebone Station,
London, N.W.1.
January 21, 1946.

REQUIRED for railway service in Uruguay, Chief of Traction, shop trained, footplate and running shed experience, versed in rostering engine crews and capable of controlling shed foreman and inspectors. Commencing salary, in local currency, equivalent approximately £500 per annum.

Also Junior Civil Engineer, railway trained, qualified, preferably under 25 though slightly older man with War Service acceptable. Salary as above equivalent to £600 to £675 per annum.

Four-year contracts, renewable, passage paid. Single men preferred. Write in first instance to Box 254, c/o Streets, 110, Old Broad Street, E.C.2.

TRAFFIC and Despatch Manager required by manufacturing company in the West London area—mainly railway and road transport. Salary, £500-£550 per annum according to qualifications. Please write, stating age and experience, to Box 171, c/o *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

train service introduced in October between Fenchurch Street and the London, Tilbury & Southend section, but the considerable improvement in the speed and frequency of the trains is being maintained.

Resumption of Express Coach Services.—The Ministry of War Transport states that, although the full-scale resumption of express coach services will not be possible until the labour and vehicle position becomes normal, it is hoped that some of these services may be resumed shortly. The Minister has informed operators that, in consideration of the improved labour position, the Regional Transport Commissioners will be prepared in suitable cases to consider applications for the resumption of express services as from February 1 next.

Insurance of Motor Goods Vehicles.—In September, 1945, insurers of motor goods vehicles agreed to continue and extend, without any general increase in rates, existing policies for motor goods vehicles while used within a group scheme, although the Emergency Powers (Road Vehicles & Drivers) Order, 1939, removed certain restrictions on "A," "B," and "C" licences under the Road & Rail Traffic Act, 1933. The same concession has been agreed to in respect of vehicles used for other purposes on a certificate by an officer of the Ministry of War Transport that such use is necessary (1) to deal with an emergency or (2) because there were no other vehicles available which were licensed and insured for haulage for reward. These certificates are issued by District Transport Officers and are not issued for: (1) normal work for the Road Haulage Organisation of the Ministry; (2) civil defence work; (3) use which could be put on a non-emergency footing. The insurers have agreed that these arrangements shall be in force until March 31, 1946.

Wellworthy Piston Rings Limited.—In his address to the shareholders of Wellworthy Piston Rings Limited at the annual meeting of the company on December 19, Mr. J. W. Howlett, the Chairman, said that the company contributed 100 per cent. of its output to the war effort. Outstanding amongst this was the production and supply of over a million aircraft pistons for first-line aircraft; over twenty-six million piston rings for aircraft and a very important contribution was a material known then as Lymalloy. At a very critical moment when piston rings made from standard materials were failing in service, they were able to switch over to Lymalloy for Merlin aircraft engines, both for this country and also in America, and it was largely due to the demand by M.A.P. for further research in this direction that caused them to give the company the necessary authority for laying down a centrifugal foundry of its own in Ringwood, which was in satisfactory production.

Contracts and Tenders

The address of the London office of Glenfield & Kennedy Limited, and of its associated companies, British Pitometer Co. Ltd., and Hydrautomat (1931) Limited, is now 105, Park Street, London, W.1 (telephone numbers: Mayfair 0142-3-4).

As its original London office in Bush House is still occupied by the Government, Cowans, Sheldon & Co. Ltd. has obtained fresh permanent accommodation at 32, Old Queen Street, Westminster, S.W.1 (telephone: Whitehall 1149).

Lamp Manufacturing & Railway Supplies Limited has re-opened its London office at River Plate House, 12-13, South Place, E.C.2 (telephone: Monarch 2376-7; telegrams: Lampists Ave London). The company's temporary office at Leamington Spa has been closed.

Mr. George Holdorf, who, as Chief Engineer of Brush Coachwork Limited, has been specialising in technical matters relating to post-war design and production, has been appointed Chief Sales Engineer of the company. His office is at Duke's Court, 32, Duke Street, St. James', London, S.W.1 (telephone: Whitehall 6177). Mr. D. C. Bindon, who has been acting as Home Office Sales Engineer, has been appointed to the North of England and Scotland area, with offices at Leeds, Newcastle and Glasgow. Mr. F. A. Boyce represents the company in South Lancashire, the Midlands, Wales and the West of England, with headquarters at Stock Exchange Buildings, Great Charles Street, Birmingham 3 (telephone: Central 5877).

Head, Wrightson & Co. Ltd. has opened a branch office in Sheffield to deal with the sale in the East and West Ridings of Yorkshire, Derbyshire, Nottinghamshire and Lincolnshire of its products, as follow:—iron and steelworks plant, including ingot moulds; steelworks finishing machinery for the production of ferrous and non-ferrous bar, tube, plate, sheet, strip, and so on; bridges and constructional steelwork; iron castings; steel castings; special alloy castings; drop stampings and forgings; wagonwork. Mr. Andrew Readman, formerly of the company's head office staff, is the Resident Manager. His address is Leopold Chambers, 5, Leopold Street, Sheffield, 1 (telephone: 23944). Mr. B. W. Hewitt, of 90, Totley Brook Road, Totley, Sheffield, will continue to look after the company's colliery plant sales.

Below is a list of orders placed recently by the Egyptian State Railways:—

Elliott Bros. (London) Ltd.: Telegraph and telephone material.
National Gas & Oil Engine Co. Ltd.: Spares, power house
R. A. Lister & Co. Ltd.: Engine spares.
Blaenavon & Co. Ltd.: Tyres.
Brown Bayley's Steel Works Limited: Helical springs.
Armstrong Oiler Co. Ltd.: Armstrong oiler complete with pads.
Hulburd Patents Limited: Steamless copper joints.
John Oakey & Sons Ltd.: Abrasives.
Colthurst & Harding Co. Ltd.: Paints.
West Bromwich Spring Co. Ltd.: Locomotive spares.
La Carbone Limited: Ingots and dry cells.
Siemens Bros. & Co. Ltd.: Ingots and dry cells.
Imperial Chemical Industries Limited: Aluminium ingots, etc.
General Electric Co. Ltd.: Aluminium ingots, etc.
Workington Iron & Steel Co., Branch of the United Steel Cos. Ltd.: Aluminium ingots, etc.
Sissons Bros. & Co. Ltd.: Aluminium ingots, etc.
Robert Bowran & Co. Ltd.: Grey paint.
Telegraph Condenser Co. Ltd.: Condensers.
Phosphor Bronze Co. Ltd.: Metallic packing.
Thomas Bolton & Sons Ltd.: Non-ferrous metals.
Thomas Firth & John Brown Limited: Tool steel.
English Steel Corporation Ltd.: Tool steel.
Edgar Allen & Co. Ltd.: Tool steel.
Arthur Balfour & Co. Ltd.: Tool steel.
Automatic Telephone & Electric Co. Ltd.: Telegraph and telephone material.
Davies & Metcalfe Limited: Locomotive spares.
Steel, Peech & Tozer Branch of the United Steel Cos. Ltd.: Locomotive spares.
Alton Battery Co. Ltd.: Batteries, etc.
Dewrance & Co. Ltd.: Locomotive spares.
Ericsson Telephones Limited: Switch board spares.
British Oil Engines Export Co. Ltd.: Springs.
W. T. Henley's Telegraph Works Co. Ltd.: Wire, cable and cord.
Standard Telephones and Cables Limited: Telegraph and telephone material.
George Salter & Co. Ltd.: Helical springs.
J. Stone & Co. Ltd.: Bronze bars.
North British Locomotive Co. Ltd.: Locomotive spares.
Superheater Co. Ltd.: Locomotive spares.
George Turton, Platts & Co. Ltd.: Locomotive spares.
Whitelegg & Rogers Limited: Locomotive spares.
Clyde Blowers Limited: Locomotive spares.

Forthcoming Meetings

January 30 (*Wed.*).—The Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, 6 p.m. "Ten Years' Experience with the L.M.S.R. 4-6-2. Non-Condensing Turbine Locomotive No. 6202," by Mr. R. C. Bond, Member of Council.

Railway Stock Market

Strength of British Funds was again outstanding in stock markets and the further rise was accompanied by renewed talk that a big new Government loan may be impending. Business generally was quite well maintained, although in some directions the reassembly of Parliament, the French crisis and the American strike news had a restraining influence. The nationalisation groups kept steady with colliery shares quite well maintained, awaiting discussion on the Coal Bill; and among electric supply securities, County of London rose to 41s. 4½d. on talk of a possible improvement in the dividend. Home Rails eased but later tended to improve, and there were further gains in debentures and also in Great Western and Southern 5 per cent. preference, due partly to the upward tendency in gilt-edged prices, which, if continued, probably will lead to a downward adjustment in the general yield structure of markets.

Among leading industrials which attracted more attention were Imperial Chemical, Turner & Newall and Dunlop Rubber. Steel shares, including Guest Keen, Hadfields, and United Steel again came in for quiet support of the belief that the industry is outside Government nationalisation schemes. Although home rails were fairly steady, there appeared to be little fresh buying of junior stocks, despite general recognition that the dividend announcements are due next month. The disposition appeared to be to await discussion in Parliament on the Coal Bill in the hope that it may perhaps throw some light on the Government's nationalisation intentions as to home rails. In contrast, however, there was steady demand for debentures of the leading Argentine railways on growing assumptions that at current levels they are probably considerably undervalued, even should the Argentine Government propose to acquire the railways. Argentine rails were also assisted by better labour news from the Republic. A feature has been a jump of 7s. 3d. to 80s. in the £10 ordinary shares of the Nitrate Railways, which has given rise to revived talk that progress is being made in the discussions with the Chilean Government for acquisition of the railway; but this lacks confirmation at the time of writing. Elsewhere, Antofagasta ordinary and preference were also higher, attributed to the improving nitrate position. On the other hand, French railway sterling bonds showed declines of up to a point on the political news, and dollar stocks, including Canadian Pacifics, reacted on the U.S. labour unrest.

Business in home rails has been on the small side, reflecting a waiting attitude with the view gaining ground that increased dividends are unlikely. There are substantial yields on the basis of maintained payments, but nationalisation uncertainty continues to be the main factor governing this section of markets, although a good case can be made out for the assumption that junior stocks are undervalued at current levels. The rise in British Funds has tended to draw more attention to the good yields obtainable on home railway debentures which consequently have shown further improvement in price.

Great Western ordinary eased to 54¼, compared with 55¼ a week ago; but on the other hand the 5 per cent. preference rallied further from 112½ to 114, while the 4 per cent. debentures were three points up at 111, and the guaranteed stock held its recent rise to 120. L.M.S.R. ordinary moved fractionally lower at 27⅞; but the senior preference was a point higher at 78, although the 1923 preference was again unchanged at 55½. L.M.S.R. guaranteed stock at 102½ was 1½ up, and the 4 per cent. debentures rose from 104½ to 107½.

L.N.E.R. second preference eased from 29 to 28¾, but the first preference at 54½ was fractionally better; the first guaranteed moved up to par, the 3 per cent. debentures to 90½ and the 4 per cent. debentures to 107. Reflecting the upward trend in prior charges, Southern 4 per cent. debentures rallied further from 107½ to 111, and the 5 per cent. preference was 114½, compared with 112 a week ago. Southern deferred, however, eased from 23¼ to 23 and the preferred from 72 to 71½. London Transport "C" stock at 63 was a point higher.

Among Argentine railway stocks, Buenos Ayres Great Southern ordinary at 10¾ was unchanged on balance for the week, but the 5 per cent. preference strengthened to 24¾ and the 4 per cent. debentures were 1¼ higher at 65¾. Reflecting the rise in debentures, Buenos Ayres & Pacific consolidated debentures were 59, Buenos Ayres Western 4 per cents. 62 and Central Argentine 4 per cents. 56. On the other hand Central Uruguay second debentures eased to 29. Antofagasta ordinary and preference were 11 and 43 respectively. Canadian Pacifics receded to 26.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1943/4	No. of Week	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Totals 1944/5	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1945	Prices: Lowest 1945	Prices: Jan. 22 1946
				£	£		£	£	£				
South & Central America	Antofagasta	834	13.1.46	30,420	— 1,160	2	60,060	58,950	+ 1,110	Ord. Stk.	12	8¾	11
	Arg. N.E.	753	12.1.46	ps.290,900	— ps.47,000	28	ps.8,446,200	ps.8,327,100	+ ps.119,100	"	10	5¾	6
	Bolivar	174	Dec., 1945	5,142	— 803	52	8,245	63,997	— 5,572	6 p.c. Deb.	8¼	5¼	6¼
	Brazil	—	—	—	—	—	—	—	—	Bonds	25	17	28
	B.A. Pacific	2,771	12.1.46	ps.2,582,000	+ ps.350,000	28	ps.60,297,000	ps.56,773,000	+ ps.3,524,000	Ord. Stk.	7	5	5¾
	B.A.G.S.	5,080	12.1.46	ps.3,682,000	— ps.155,000	28	ps.90,484,0 0	ps.85 343,000	+ ps.5,141,000	Ord. Stk.	13¾	10½	10½
	B.A. Western	1,924	12.1.46	ps.1,209,000	+ ps. 26,000	28	ps. 33,132,000	ps.31,268,000	+ ps.1,864,000	"	12¾	9¼	10¾
	Cent. Argentine	3,700	12.1.46	ps.3,206,000	+ ps. 91,600	28	ps. 85,634,550	ps.79,886,650	+ ps.5,747,900	"	9¾	7	7¾
	Do.	—	—	—	—	—	—	—	—	Dfd.	5	2⅞	4
	Cent. Uruguay	970	12.1.46	44,716	+ 4,663	28	1,065,179	925,025	+ 140,154	Ord. Stk.	7¼	4	7½
	Costa Rica	262	Nov., 1945	26,903	+ 13,593	22	155,029	111,223	+ 43,806	Stk.	16¼	13	15
	Dorada	70	Nov., 1945	28,954	— 546	47	330,489	294,943	+ 35,546	1 Mt. Deb.	103	102	101½
	Entre Rios	808	12.1.46	ps.423,800	— ps.28,600	28	ps 11,846,000	ps.11,020,000	+ ps.826,000	Ord. Stk.	7½	4½	6
	G.W. of Brazil	1,030	12.1.46	33,700	+ 5,100	2	54,100	51,100	+ 3,000	Ord. Stk.	30/-	23/6	23/9
	Inter. Ctl. Amer.	794	Nov., 1945	$636,212	+ $89,678	47	$8,130,214	$6,827,493	+ $1,302,721	—	—	—	—
	La Guaira	22¾	Dec., 1945	5,355	— 1,167	52	74,152	90,117	— 15,965	5 p.c. Deb.	78	70	65½
	Leopoldina	1,918	12.1.46	52,288	+ 9,449	2	90,744	76,078	+ 14,666	Ord. Stk.	4½	3½	3¾
	Mexican	483	14.1.46	ps.685,200	+ ps.190,500	28	ps 1,273,400	ps. 982,600	+ ps. 290,800	Ord. Stk.	¼	¼	1⅛
	Midland Uruguay	319	Dec., 1945	20,392	+ 3,432	25	115,193	100,831	+ 14,362	—	—	—	—
	Nitrate	382	15.1.46	11,016	+ 4,372	2	11,016	6,644	+ 4,372	Ord. Sh.	75 6	67/6	78/9
	N.W. of Uruguay	113	Nov., 1945	5,621	— 463	20	29,012	30,605	— 1,593	—	—	—	—
	Paraguay Cent.	274	11.1.46	£61,682	+ £3,860	28	£1,707,791	£1,698,368	+ £9,423	Pr. Li.Stk.	79¾	77	75½
	Peru Corp.	1,059	Dec., 1945	145,207	+ 12,034	26	849,478	769,298	+ 80,180	Pref.	10⅜	7¾	9½
	Salvador	100	Nov., 1945	c 91,000	+ c 4,000	20	c 467,000	c 410,000	+ c 57,000	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	60¾	50½	56½
	Taltal	156	Dec., 1945	3,200	+ 810	26	15,520	15,165	+ 355	Ord. Sh.	17/-	10/6	15/3
	United of Havana	1,301	12.1.46	49,332	— 6,037	28	1,254,854	1,345,537	— 90,683	Ord. Stk.	3	1	2
	Uruguay Northern	73	Dec., 1945	1,830	+ 267	25	10,894	8,887	+ 2,007	—	—	—	—
Canada	Canadian National	23,569	Nov., 1945	6,861,200	— 534,600	48	79,651,400	80,524,600	— 873,200	—	—	—	—
	Canadian Pacific	17,030	14.1.46	1,039,200	+ 63,200	2	1,933,000	1,880,600	+ 52,400	Ord. Stk.	24	14⅜	25½
Various	Barsi Light†	202	Nov., 1945	31,702	+ 10,057	33	198,345	186,645	+ 11,700	Ord. Stk.	131	123	120½
	Beira	204	Oct., 1945	70,588	— 7,961	4	70,588	78,549	— 7,961	—	—	—	—
	Egyptian Delta	607	30.11.45	21,422	+ 976	36	347,935	459,114	— 41,991	Prf. Sh.	10	8½	6½
	Manila	—	—	—	—	—	—	—	—	B. Deb.	71	55½	70
	Mid. of W. Australia	277	Nov.,1945	17,065	— 971	20	64,836	101,007	— 19,105	Inc. Deb.	97½	85	85
	Nigeria	1,900	27.10.45	69,796	+ 9,511	30	1,607,174	1,823,256	— 216,082	—	—	—	—
	Rhodesia	2,442	Oct., 1945	516,412	— 1,087	4	516,412	517,499	— 1,087	—	—	—	—
	South African	13,301	15.12.45	1,101,920	+ 55,664	40	37,530,165	33,750,937	+ 3,779,228	—	—	—	—
	Victoria	4,774	Oct., 1945	1,314,455	+ 22,288	—	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee